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THE English Husbandman,

drawne into two Bookes, and each Booke into two Parts.

The First Part

Contayning the knowledge of Husbandly Duties, the Nature of all sorts of Soiles within this Kingdome, the manner of *Tillage*, the diversity of *Ploughes*, and all other *Instruments*.

The Second Part

Containing the Art of *Planting*, *Grafting*, and *Gardening*, the Vse of the *Vine*, the *Hopgarden*, and the Preservation of all sorts of *Fruits*, the Draught of all sorts of *Knots*, *Mazes*, and other *Ornaments*.

Newlie Reviewed, Corrected, and Inlarged by the first Author,

G. M.

London
Printed for *Henry Taunton*, and are to be sold at his Shop in Saint *Dunstans* Church-yard in Fleetstreet. 1635.

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TO THE HIGH AND MIGHTY PRINCE IAMES STVART,

Duke of *Lenox*, Earle of *March*, Lord *Darnly*, *Methuen*, *S^t. Andrewes* and *Aubigni*, Admirall and Chamberlain of *Scotland* by Inheritance, Gentleman of His *Majesties* Bed-chamber, Knight of the most Noble Order of the Garter, and one of His *Majesties* most Honourable Privie Councell.

SIR,

HOwsoever, or whensoever these poore Gatherings shall come to kisse Your *Graces* Hands, I know they must necessarily appeare Strangers, both in respect of My selfe and the Subject; The first being but a Remembrancer of Your Birth, the other a Treatise below Your Meditation: Yet, Gracious *Sir*, bee

pleased to let me plead this, both for it and mee; That when I was a Servant to Your noble Ancestour, and had houres to bestow on my owne Studies, then at *Layton*, I first thought of this Worke, there I made proofe of everie Doubt in the Worke, and there I finisht whatsoever I found perfect within mine Experience; Since when (not being willing to lose any meanes that might amplifie profitable Beginnings) I have gathered other Principles; All which I have inserted, and doubt not, but the Worke is now able to give satisfaction to all those which shall question it, and by many degrees the more, If Your *Grace* shall be pleased to throw one glimpse of your Gracious Favourable Acceptance upon it: In which hope I rest

Your *Graces* Servant

Gervase Markham.

THE EPISTLE
to the generall and gentle READER.

ALthough (generall Reader*) the nature of this worst part of this last Age hath converted all things to such vildnesse, that whatsoever is truely good, is now esteemed most vitious, Learning being derided, Fortitude drawne into so many Definitions, that it consisteth in meere words onely; and although nothing is happy or prosperous, but meere fashion and ostentation, a tedious fustian-tale at a Great mans Table, stuft with big words, without sense, or a mimicke Iester that can play three Parts in one, the Foole, the Pandar, and the Parasite; Yet notwithstanding in this Apostate Age I have adventured to thrust into the World this Booke, which nothing at all belongeth to the silken Scorner, but to the plaine russet honest Husbandman, for whose particular benefit, and the Kingdomes generall profit, I have with much Paine, Care, and Industry, passed thorow the same. Now for the Motives which first drew me to undertake the Worke, they were diverse: as first, when I saw one*

man

man translate and paraphrase most excellently upon Virgill's Georgickes, *a Worke onely belonging to the Italian Clime, and nothing agreeable with ours, another translates* Libault *and* Stevens, *a Worke of infinite excellencie, yet onely proper and naturall to the French, and not to Vs: and another takes collections from* Zenophon, *and others; all Forrainers and utterly unacquainted with our Climes: when this I beheld, and saw with what good liking they were entertained of all men; and that every man was dumbe to speake any thing of the* Husbandry *of our owne kingdome, I could not but imagine it a Worke most acceptable to men, and most profitable to the kingdome, to set downe the true manner and nature of our right English* Husbandry, *our Soyle being as delicate, apt, and fit for increase as any Forraine Soyle whatsoever, and as farre outgoing other kingdomes in some commodities, as they Vs in others. Hence, and from these considerations, I beganne this Worke, of which I have here sent thee a taste, which if I finde accepted, according to mine intent, I have my wish.*

Now whereas there were some errours and mistakings in the first Edition, you shall understand they are now purged and amended, and the Worke I hope made sufficient to give satisfaction to any charitable Iudgement.

Thine

G. M.

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THE FIRST PART OF THE FIRST BOOKE OF THE Englisſh Husbandman.

Containing the manner of Ploughing and Manuring all ſorts of Soyles: Together with the manner of Planting and Setting of Corne, the choyſe of Seede for every Soyle: the manner of Harveſt, and getting it in.

CHAP. I.

The Proeme of the Author. What a Husbandman is: His Vtilitie and Neceſſitie.

IT is a common Adage in our Engliſh ſpeech, that a man generally ſeene in all things, can be particularly perfect in none: Which Proverb there is no queſtion will both by the curious and envious be heavily impoſed upon my backe, becauſe in this, and other workes, I have dealt with many things of much

importance, and such as any one of them would require a whole lyves experience, whereas neither my Birth, my Education, nor the generall course of my life can promise any singularity in any part of those Arts they treate of: but for suggestions (the liberty whereof the wisedome of Kings could never bridle) let them poyson themselves with their owne gall, they shall not so much as make me looke over my shoulder from my labour: onely to the courteous and well meaning I give this satisfaction, I am but onely a publique Notarie, who record the most true and infallible experience of the best knowing Husbands in this Land.

Besides, I am not altogether unseene in these mysteries I write of: for it is well knowne I followed the profession of a *Husbandman* so long my selfe; as well might make me worthy to be a Graduate in the Vocation: wherein my simplicitie was not such, but I both observed well those which were esteemed famous in the profession, and preserved to my selfe those rules which I found infallible by experience. *Virgill* was an excellent Poet, and a Servant of trusty account to *Augustus*, whose Court and study-imployments would have said, he should have little knowledge in rurall businesse, yet who hath set downe more excellently the manner of Italian Husbandrie then himselfe, being a perfect lanthorne, from whose light both *Italie* and other Countries have seene to trace into the true path of profit and frugality? *Stevens* and *Libault*, two famous Physitians, a profession that never medleth with the Plough, yet who hath done more rarely? nay, their works are utterly uncontrolable touching all manner of French Husbandry whatsoever; so my selfe, although by profession I am onely a Horse-man, it being the predominant outward vertue I can boast of, yet why may not I, having the sense of man, by the ayde of observation and relation, set downe all the Rules and Principles of our English Husbandrie, in as good and as perfect order as any of the former? There is no doubt but I may, and this I dare boldly

assure

assure unto all Readers, that there is not any rule prescribed through this whole Worke, but hath his authoritie from as good and well experienced men, in the Art of which the Rule treateth, as any this Kingdome can produce: neither have I beene so hasty, or willing, to publish this part as men may imagin, for it is well knowne it hath laine at rest this many yeeres, and onely now at the Instigation of many of my friends is bolted into the world, to try the censure of wits, and to give ayde to the ignorant *Husbandman*. Wherefore to leave off any further digression, I will fall to mine intended purpose: and because the whole scope of my labour hath all his ayme and reference to the English *Husbandman*, I will first shew you what a *Husbandman* is.

The definition of a Husbandman.

A *Husbandman* is hee which with discretion and good order tilleth the Ground in due seasons, making it fruitfull to bring forth Corne, and Plants, meete for the sustenance of man. This *Husbandman* is hee to whom God in the Scriptures giveth many blessings, for his labours of all other are most excellent, and therefore to bee a *Husbandman* is to be a good man; whence the Auntients did baptise, and wee even to this day doe seriously observe to call every *Husbandman*, both in our ordinary conference and every particular salutation, Goodman such a one, a title (if wee rightly observe it) of more honour and vertuous note, then many which precede it at feasts and in gaudie places.

The Vtilitie of the Husbandman.

A *Husbandman* is the Master of the earth, turning sterilitie and barrainnesse, into fruitfulnesse and encrease, whereby all Common-wealths are maintained and upheld, it is his labour which giveth bread to all men, and maketh us forsake the societie of beasts drinking upon the water springs, feeding us with a much more nourishing liquor. The labour of the *Husbandman* giveth libertie to all Vocations, Arts, Mysteries and Trades, to follow their severall functions, with peace and industrie; for the filling and emptying of his Barnes is the encrease and pro-

sperity of all their labours. To conclude, what can wee say in this world is profitable where Husbandry is wanting, it being the great Nerve and Sinew which holdeth together all the joynts of a Monarchie?

Of the necessity of Husbandmen.

Now for the necessity, the profit inferreth it without any larger amplification: for if of all things it be most profitable, then of all things it must needs be most necessary, sith next unto heavenly things, profit is the whole aime of our lives in this world: besides, it is most necessary for keeping the earth in order, which else would grow wilde and like a wilderneſſe, brambles and weedes choaking up better Plants, and nothing remaining but a Chaos of confusedneſſe. And thus much of the *Husbandman* his Utility and Necessity.

CHAP. II.

The duties and vertues appertaining to the Husbandman.

HAving shewed you the Definition, Utilitie, and Necessitie of the *Husbandman*, it is fit I proceed now to some particular duties and vertues, which ought to accommodate and adorne both his body and his minde, for without some especiall endowments, let his labour be never so great, his knowledge and skill never so deepe, his Reputation never so renowned, yet hee shall finde want in divers prosperities.

Who is a Husbandman.

First therefore let every man understand, that this title of *Husbandman* is not tyed onely to the ordinarie Tillers of the earth, such as we call *Husbandmen*; In *France* Pesants, in *Spaine* Besonyans, and generally the Clout-shoo: No, they are creatures of a better creation; for as *Adam* was the first *Husbandman*, so all the sonnes of *Adam* (even from the Crowne to the Cottage; how excellent so ever, if they be excellent indeed,) cannot assume a greater, a better or richer title, then to be a Good-Husband, and where

the

the contrary is fixt to the Monument, there the life endeth in scandall.

Then sith our *Husbandman* is so good, so great; it is necessarie that hee be adorned with all the qualities both divine and morall, which may any way beautifie and illustrate his calling; into the particulars, whereof I will not enter, because it is a pitch too high, and a field too spatious; I will onely touch at some few necessities, and under them leave to your considerations the worth of greater vertues.

Labour requisite in an Husbandman.

First therefore there is nothing more requisite in an *Husbandman*, then acquaintance with labour and abilitie to endure labour; for I never read but of one rich Sluggard, and he perished the first night hee tooke his rest; let our *Husbandman* then know labour, and apply himselfe to labour. I doe not meane servile and painefull labour, which shall either disable the body, or torment the minde; but such labours as are requisite and necessarie for his calling, as the labour of his eyes in visiting and beholding his affaires, in apprehending the good and evil actions of his Servants, in finding out wants, and repairing them, and in shewing to others what they ought to performe in their severall places; the labour of his hands in distribution of things necessarie, wanting, or behoovefull; in assisting and encouraging, or in restraining or detaining things lavish or misapplied: The labour of his feet; in walking about his Pastures, Medowes, Woods, Commons, and Tillage; in measuring lengths and breadths, which leades to the assured knowledge of profit, and in meeting with mischances, or else preventing them by an early encounter: Lastly, the labour of the minde, as in fore-casting affaires to come, providently; in mannaging affaires present, discreetly, and in preserving those which are past from deserved controlment.

He must have skill in Husbandrie.

Next, hee ought to have skill in his profession, for to endevour is not sufficient, *Good-will* is an honest Servant, but it is true knowledge that arives at perfection; neither must his skill be imaginarie or grounded upon ostentation, but reall and approveable with the best judgements; for how-

soever *advise* be an excellent Handmayd, yet is true Judgement a better Master; for having that, there is nothing profitable but is easily discernable, so that he is able by his owne discourse, to ranke all things in their true order; hee shall then know what grounds are fit for the Plough, what for the Sythe, and which for Pasture; what for high Woods, what for Vnderwoods, what for Inclosure, and what for Common: He shall then be able to informe himselfe what is fit for his owne use, and what for others occupation, what he shal keepe in his own hands, and what he shall farme out to other men; & then this there is not a better knowledge, for many men have broken their owne backes in coveting to carrie too much gold: Besides, this skill in his profession will breede a singular love and delight, onely to pursue and follow the profession: as on the contrarie part it will stirre up a neglect and contempt of other vanities, by what great name or title soever they be baptized, especially it will make him peaceable, and an hater of Law-suites, because it is the wise mans rule, that every *Husbandman* is bound to follow his affaires and not contentions.

Hee must be courteous.

Next to this matter of skill, he shall joyne an affable and courteous nature, as well for his owne renowne as others example. This affability as it is tyed generally to all men, so it is bound particularly to his owne family, for it sufficeth me not to be good abroad, but I must be excellent at home: I must not toy onely with my wife and children, but I must also play with my Servants, and there is not a more excellent cariage of Masters unto their Families, then sweetnesse and discreete affability; for all men cannot endure roughnesse, since out of harshnesse proceeds more rebellion then good obedience; And the Wiseman tells mee, *That to hasten servants too speedily, is the losse of profit certainly.* Therefore the conclusion must needes follow, *That courtesie is no hinderance to Vtility*; yet must this *affability* and *courtesie* be bounded within a moderate circumference; for to overflowe, it not onely drownes all the vertues bordering upon it, but pulls in with it and upon it, *contempt*, the hatefullest

fulleſt companion which can accommodate any vertuous creature. Servants generally will performe too little, yet it is reputed an error in the Maſter to exact too much; therefore Moderation is an excellent Umpire betwixt them, and the obſcure forbearance of the one, will make the other ſtruggle to excell in requitall. Neither muſt this courteſie be confined to one place, as to the Yard, the Garden, the Field, the Paſtures, or places of ſeverall & neceſſarie uſe of labour, but to other places of frequence and commerce, as the Houſe, the Chamber, and the Table: the firſt to his Servants and Creatures, the ſecond to his Wife and Children, and the laſt to Strangers: And indeede ſo much doth the Lord of *Montaigne* commend cheerefull affability at the Table, that hee ſaith every man is bound to make himſelfe a Foole at meale times for the Recreation of thoſe hee entertaineth; the limitation whereof, how farre it boundeth, no wiſe man but knowes without an Expoſiter. Let it ſuffice then that our *Husbandman* be in a true meaſure, courteous without any overflowe of kindneſſe, or ingagement by hyperbolike complement, and affable without hauſſing or kiſſing, or the vanity of repentant promiſes.

Next to theſe vertues I joyne Sobriety and Diſcretion; the firſt is a Champion that wil ever defend him from Raſhneſſe, the other a Bulwarke that will ſtand impregnable againſt all the aſſaults of Folly; and beleeve it, without theſe there can be no good man, no *Husbandman*, no Man to teach others Thrift by his example; for theſe are called the Salt of profit. Theſe ſeaſon and make our Actions wholſome; theſe reliſh and make us taſte with pleaſure things that are unpleaſant, and theſe preſerve and give to things a kinde of eternity, which otherwiſe would turne to dung and putrifaction. Theſe two whoſoever holds as inſeperable Companions, ſhall hardly erre in his progreſſe, or ſtand amazed at any turning *Meanders*: Theſe will teach him the knowledge of himſelfe and others, how to Conſtrue and Parce men, and by that meanes to come to the underſtanding of the moſt difficult Natures.

He muſt be Sober and Diſcreete.

Theſe

Election of Friends,

These must be our *Husbandmans* Friends to teach him how to make election of Friends; and then this, there is not an harder lesson; out-sides are so false: Insides so guilded, and soules themselves so transmigrated & transformed: Therfore I would have our *Husbandman* to joyne Divinity and Philosophie together; that is, to be truly charitable to all men, but singularly affected to a fewe particulars; to throwe away intimate love too lavishly, is to affect no man sincerely, for Love is compos'd of a jealous substance, and neither holds faire quarter with Generality nor Plurality; therefore in the election of his Intimates, let him chuse those which are Religious towards God, honest towards men, and profitable to themselves and others.

Election of Servants.

When he hath learnt how to elect Friends; the same Rule will teach him how to elect Servants; and though there be divers mysteries in this kinde of election, because Servants were never so subtill, never so shallow, never so slowe to any good performances, yet in as much as the Master hath the advantage of alteration and mutation (for Services must not be Inheritances, though a good Servant is worthy to be a long-lyved Tenant) there is lesse fault in the Servants error then in the Masters election; therefore it is meete (as neere as he can) to chuse an honest Servant, a faithfull Servant, a lover of his Masters profit, but above all things an hater of drunkennesse, which we call good fellowship.

Of Writing and Reading.

Lastly, touching the Masters knowledge in the seaven liberall Sciences, or in generall learning, howsoever some of our best Teachers holds it a thing unnecessarie, and rather burthensome then profitable, saying, *Writing and Reading are unnecessarie in the Husbandman:* Yet I am of another opinion, and thinke as touching the Master of the Family himselfe, learning can be no Burthen; for *Vertue* was never found unprofitable, and questionlesse *Ignorance* was ever an evill Schoole-mistresse. But if we speake as touching some especiall Servants in Husbandrie; as the Bayliffe, the Under-farmer, or any other ordinarie Accountant: then for these vertues of Writing and Reading, it is not much

much materiall whether they be acquainted therewith I or no, for there is more truſt in an honeſt ſcore chaulkt on a Trencher, then in a cunning written ſcrowle, how well ſo ever painted on the beſt Parchment. Writing will helpe a weake Memorie: but a weake Memorie without Writing will ſoone diſcover Falſhood. I had rather be my Mans *Amanuenſis* to regiſter his Truthes, then a Witneſſe of his Learning in finding out falſe Reckonings. And there is more Benefit in ſimple and ſingle Numeration in Chaulke, then in double Multiplication, though in never ſo faire an hand written. Therefore let our *Husbandman* not ſtand much on his Mans Writing or Reading, but rather rely upon his Uprightneſſe and Integritie; for the one may be falſified and corrupted, the other if it be ſound will hardly be ſhaken. A world of other Attributes, Adjuncts, and Adviſes might be reckoned up, to accommodate our *Husbandman*; but theſe already ſpoken of are ſo neere alyed unto them, that it is impoſſible to be familiar with them, and to loſe the others acquaintance.

CHAP. III.

Of other vertues, as namely; How the Husbandman ſhall judge and fore-know all kinde of Weathers, and other Seaſons of the Yeere.

ALthough God out of his infinite providence, is the onely directer and ruler of all things, governing the yeeres, dayes, minutes, and ſeaſons of the yeere, according to the power of his Will: yet for as much as he hath given us his Creatures, and placed the Celeſtiall bodies to hold their influences in us, and all things elſe which have increaſement, revealing unto us from their motions, the alteration and qualities of every Seaſon, it ſhall be very behoovefull for every *Husbandman* to know the ſignes and tokens of every particular Seaſon, as when it is likely to Raine, when Snow,

when Thunder, when the Winds will rise, when the Winter will rage, and when the Frosts will have the longest continuance, that fashioning his labours, according to the temperature or distemperature of the weather, he may with good judgement and advise, eschew many evils which succeede rash and unfore-looking actions.

Of Rayne. Signes from Clouds.

To speake then first of the generall signes of Raine, you shall understand that the old *Husbandmen* did observe rules generall, and rules speciall: the generall rules were such as concerned either all, most, or a great part of the whole yeere: the rules speciall, those which concerned dayes, houres, and times present: of which I will first speake in this place.

Signes from the Moone.

If therefore you shall at any time perceive a Cloud rising from the lowest part of the Horizon, and that the maine body be blacke and thicke, and his beames (as it were) Curtaine-wise, extending upward, and driven before the Windes: it is a certaine and infallible signe of a present shower of Raine, yet but momentary and soone spent, or passed over: but if the Cloud shall arise against the Winde, and as it were spread it selfe against the violence of the same, then shall the Raine be of much longer continuance.

Signes from the Sunne.

If when you see the new Moone appeare, you perceive that some part of her Hornes are obscured, or if it be black, or discoloured in the middest: if it hang much to the West, if it be compast or girdled about, either with thicke, or waterish transparent vapours: if it looke more then ordinarily pale, or if it shall begin to raine small and mist-like on the fourth or fift day of her age, all these are infallible signes of Raine, and the last an assured signe that the Raine will continue all that quarter of the Moone following.

If you shall see the Sunne rise early in the Morning, and spread forth his Beames violently, yet with a very moyst and waterish complexion, and there-withall in the West you doe see a bedde of thicke vapours to arise, increase, and ascend upward, then shall you bee assured that at high

high noone, when those vapours and the Sunne shall meete, there will bee Raine, and that Raine of no short continuance: If you shall see the Sunne rise red, and turne sodainly blacke, if it have many red clouds about it mixt with blackenesse, if it have a spacious Circle about it, or if when it setteth you see it fall behinde a banke of darke and blacke Cloudes, they bee all most certaine and infallible signes of Raine, which will presently follow.

If it lighten at noone, or any time whilest the Sunne shineth, either with Thunder or without Thunder, or if it lighten in faire weather, or if it lighten more then it thundereth, all are most certaine signes of raine which will follow. *Signes from the Lightning.*

If you shall perceive water-Fowle to bathe much: if the Crow wet her head at the water brimme, or if shee wade into the water, or if shee shall cry and call much: if the Raven shall croake with a hollow or sounding voyce: if the house-Cocke shall crow at all houres: if Pigions shall come home late to the Dove-house: if Sparrowes shall chirpe and cry early in the morning: if Bees flye not farre from their Hyves: if Flies and small Gnats bite sharpe and sore, all are most certaine signes of raine, which will presently follow. *Signes from Fowle.*

If you shall perceive your Oxen to eate more greedily, and with a more earnest stomacke then their usuall custome: if your Kine gaze and looke much upward: if Swine shall play and gambole up and downe: if Horses being at grasse shall scope, course, and chase one another: or if the Cat shall wash behinde her eare, all are certaine signes of raine to follow. *Signes from Beasts.*

If Salt turne moyst standing in dry places, if Channels, Vaults, and common Sewers stincke more then usuall: if Bels seeme to sound lowder then they were wont: if the Tazell at any time close up his pricks: if Soote fall much from the Chimney: If oyle shall sparkle much when it burneth, or if Marble, Paving-stone, or other walls *Signes from things without motion.*

shall sweat, or be much moyst, all are most inevitable signes of raine which will follow.

Signes of much Raine.

If Raine, when it falleth, make great bubbles, or such a noyse as is not ordinary: or if raine fall mildely, small, and mist-like; or if raine fall in a calme when no winde stirreth: or if when it raineth, you cannot perceive the Rack or Clouds to move: if Pullen flye to their roust assoone as the raine begins: if the Raine-bow stretch towards the South, or if it doe reflect and sheedoole: if you shall see one or more Weather-galls which are like Raine-bowes, onely they arise from the Horison but a small way upward, all these are most certaine signes of much raine that will follow.

Signes of Snow or Haile.

If black Clouds shall turne sodainly white: if about either the Sunne or Moone be pale and watterish Circles, or that they seeme to shine as through a mist: if the Ayre be thick and extreame cold without frosts: if with the signes of raine be mixt signes of cold also, or if windes be nipping and extreame sharpe, all are most certaine tokens that Snow or Hayle will follow presently after.

Signes of winde.

If when the Sunne setteth it looketh red and fiery, and that all that part of the Horizon looke red also, or if it looke blewish, or seeme greater then his ordinary proportion: If the Moone doe blush or looke high coloured, if the Racke ride high, and the Firmament be much vaulted: if Woods and Hils seeme to make a noyse: if the Starres seeme to shine brighter then usuall: if it shall thunder in Winter, or if it thunder without lightning: if Bels be heard farre off with more ease then accustomed, and presently in the same instant be not heard at all: If Cobwebs flye much in the ayre: If Hernes or Heronshoes cry much in their flying: If fire sparkle much, or if Wood or Wainscot crack much, all these are most certaine signes of much winde that will follow after.

Signes of tempests.

If you shall perceive the Morning or Evening Sunne, either in the Summer or in the *Autumne*, to shine hotter, or to scorch more then accustomed, when the ayre is prest with

with an extreame blacke cloude, or with many clouds, if you perceive whirle-windes to blow oft and violently: if you see the Raine-bow shall appeare in the West without raine: if you see flames and meteors flashing in the ayre, or if the Porpus shall be seene in the fresh River, all are most certaine signes of thunder, lightnings, and tempests, which will follow.

If the Sun rise gray and cleare in the morning, and likewise setteth without darknesse, not losing a minute in the declination: if the evening skie be ruddy and not fierie, more purple then skarlet: if the Moone be cleare when it is foure or five dayes olde: if it lighten after Sun-set without thunder: if the dewe fall in great abundance, and in the rising ascend up to the mountaines: if the North winde blow strong: if the Owle doe whup much and not scrytch: if Flyes at night play much in the Sunnes beames: if Crowes flocke much together, and cakelland talke: if Bats flye busily up and downe after Sunne-set, if you see Cranes flye high, and water-Fowle make their haunts farre off from the water; all these are most certaine signes of very faire weather which will follow after. *Signes of faire weather.*

If water-Fowle forsake the Water: if the Nightingale sing more then other Birds: if Cranes flocke together: if Geese fight for their feeding place; or if Spatrowes call very early in the Morning, any of these are certaine signes that Winter is neere at hand. *Signes of Winter.*

If the West winde blowe freshly Morning and Evening: if the colde abate and lose much of his vigour, if Swallowes begin to come in and flye busily about, if the brest-bone of the Mallard or Woodcocke looke white and cleare, any of these are certaine signes that the Spring is at hand. *Signes of the Spring.*

If the Ramme ride in the Spring, and shew more then an usuall lust: if the Spring have beene very extraordinarily colde, or if Mi dewes fall not in the Woodland-Countries, any of these are certaine signes of a hot Summer to follow after. *Signes of a hot Summer.*

Signes of a long Winter.

If you shall see the Oake loaden with Acornes: if the brest-bone of the Mallard when hee is kild looke red: if Hornets be seene after the end of October, or if Cattell doe trample and tread the earth much, making it myrie, or like a new plough'd field: any of these are most certaine signes that the Winter will be sharpe, long, and cruell.

Signes of a forward or backward yeere.

If there fall much Raine before October, by meanes whereof many inundations doe follow, and that such wet lye long above ground: it is a most infallible token that the yeere will be very forward: but if the wet doe fall after October, then it is a signe that the yeere will be indifferent, but and if the wet fall after November, then it is held for most certaine that the yeere will fall out very slack and backward.

Signes of a good or bad yeere.

If the Oke Apples, when they are opened, breed Flyes, or if Harvest be seasonable, and the Spring warme: if Snow fall in February: if Broome put forth great store of Flowers: if the Walnut-tree have more blossomes then leaves: if the flower of the Sea-Onion wither not quickly, or if the Spring be preserved from Frosts and Blasting, then any of these are certaine signes that the yeere will proove passing good and fruitfull: but if the Oake Apple breed insteed of a Flye a Spider: if Comets or Meteors oppresse the Ayre: if the Summer fall out unnaturally moyst: if the Dewes when they fall or the rising of the Sunne descend to the Rivers: if Frosts come in unseasonable times: if wood-Birds flye to the Plaines, and refuse covert: if the Sunne have his whole body, or at least three parts ecclipsed: when Corne beginneth to bloome, and is not fully kirneld, then any of these be most certaine signes that the yeere will proove bad, barraine, and fruitlesse.

Signes from Christmas day.

Againe, if Christmas day shall fall upon the Sunday, the yeere shall bee good, seasonable, and abounding with all store and plenty: if it fall upon Munday the yeere shall be reasonable temperate and fruitfull, onely something subject to inundation of waters, losse by shipwrack, and some mortality of people, especially women in child-bearing: if it fall

upon

upon Tuesday, the yeere will proove very barraine and unfruitfull, much dearth will raigne, and amongst people great plague and mortality: if it fall upon Wednesday, the yeere shall be reasonably seasonable, though a little inconstant: there shall be plenty of all things, onely much sicknesse, and great likelyhood of warres: if it fall upon the Thursday, the yeere shall be generally very temperate and wholesome, onely the Summer subject to moistnesse, much division is like to fall amongst the Clergie, and women shall be given to more lasciviousnesse then at other seasons: if it fall on the Friday, the yeere shall be barraine and unwholesome, for sicknesse shall rage with great violence, much mortality shall fall amongst young Children, and both Corne and Cattell shall be scarce, and of a deere reckoning: if it fall on the Saturday, the yeere shall be reasonably good and plentifull, onely the people of the world shall bee exceeding perverse, and much given to mutinie and dissention one against another.

Signes from the Sunne rising.

Againe, if the Sunne rise without impediment, and shine bright and cleere upon Christmas day, the yeere will be very plentifull: if it rise likewise cleere the second day in Christmas, then Corne will fall in price: if it rise cleere the third day in Christmas, there will onely bee dissention in the Church: if on the fourth day, it foreshewes trouble unto young persons: if on the fift day, it shewes that many good things will increase: if on the sixt, doubtlesse every Garden will bring forth great plenty: if on the seaventh, then is much dearth and scarsitie to bee feared: if it shine cleare on the eight day in Christmas, then there is likely to be great store of Fish: if on the ninth, it will doubtlesse prove a good yeere for all manner of Cattell: if on the tenth, the yeere is likely to yeeld much cause of mourning: if on the eleaventh, there will fall much fogges, thicke mistes, and great infection will followe after. Lastly, if the Sunne shine cleare the twelfth day after Christmas, it foreshewes much warres and troubles, with great losse and bloudshed.

Againe,

Signes from the twelve dayes in Christmas.

Againe, according to these former observations, you shall understand, that what weather shall fall or be on the sixe and twentieth day of December, the like weather shall be all the moneth of Ianuary after: what shall be on the seaven and twentieth of December, the like shall be all the moneth of Februarie following: what weather shall be on the eight and twentieth day of December, the like weather shall be all March following: what weather shall be the nine and twentieth day of December, the same shall be all Aprill after: what on the thirtieth, the same all May: what on the one and thirtieth, the like all June following: what weather shall fall on the first of Ianuary, the same shall be all July after: what on the second of Ianuary, the same all August after: what on the third, the same all September after: what on the fourth, the same all October following: what on the fift, the same all November after, and what weather shall fall on the sixt of Ianuary, which is Twelfe-day, the same weather shall fall all December following.

Signes from Saint *Pauls* day.

Againe, if Saint *Pauls* day prove faire, dry and bright, it fore-sheweth plenty of all things the yeere following: but if it be misty, then it shewes great dearth of Cattell. If there fall upon that day Snow or Raine, then it shewes Famine and Want of Corne; but if it be windy, tempestuous; or if it thunder, then it sheweth that great warres will follow.

Signes from *Maudlin*, and Saint *Swythens* day.

Againe, looke what quantitie of Raine falleth either on *Mary Maudlins* day, or on Saint *Swithens* day, be it more or lesse, the same proportion will fall for the space of forty dayes after: but if these two dayes be faire and dry, all the time of Harvest will be so also.

If Corne shall be cheape or deare.

Now if you will know whether Corne shall be cheape or deere, take twelve principall graynes of Wheate out of the strength of the eare, upon the first day of Ianuarie, and when the harth of your Chimney is most hot, sweepe it cleane, then make a stranger lay one of those Graynes on the hot harth, then marke it well, and if it leape a little,

Corne

Corne shall be reasonably cheape, but if it leape much then Corne shall be exceeding cheape, but if it lye still and move not, then the price of Corne shall stand, and continue still for that Moneth: and thus you shal use your twelve Grains, the first day of every Moneth one after another, that is to say, every Moneth one Graine, and you shall know the rising and falling of Corne in every Moneth, all the yeere following.

Signes from Thunder.

If it shall thunder much the first Sunday of the New-yeere, it shewes great death and mortality amongst learned men: if it thunder the first Munday, it shewes great death of women, and many Eclipses of the Sunne: if it thunder on the first Tuesday, it shewes plenty of corne, but much Warre and dissention: if it thunder on the first Wednesday, it shewes mortality and death amongst the worst sort of people, both Male and Female, besides much Warre and bloudshed: if it thunder on the first Thursday in the New-yeere, it sheweth much plenty of Corne that will follow: if it thunder on the first Friday, it betokeneth the losse of great Personages, and men of authority, many affrayes and murthers, with much perill and danger. Lastly, if it thunder upon the first Saturday in the New-yeere, it foreshweth onely a generall plague and infection, which shall raigne with strong violence.

Signes of sicknes or health.

If you shall perceive the Summer and Spring time to fall out very moyst and rainie, without wind, yet in their owne natures very hot and scorching, or if the Southern or South-west winde blow much without raine: if many fogs and mists fall in the Morning, and overcome the Sunne beames at noone also: if the Sunne suffer any large Eclipse: if Autumne and Winter be more foggie then moyst or cold: if the Dowe or Leaven, of which you mould your bread, doe quickly mould and cleave together without labour: if Dogs runne madde, if Birds forsake their nests: if Sheepe rot: if Fennes, Marrish-grounds, and muddy places abound with Frogs: if Mud-walls breed Swine-lice or Sowes: if Moales forsake the earth: if the small Poxe or Meazels be rife and

abound in the Spring time, or if women generally doe miscarie in childe-bed, any of these are most certaine signes of much sicknesse and mortality that will follow the yeere after: and all such signes as are directly contrarie to any of these, as if the Summer and Spring doe fall out dry and windie: if the South or South west winde bring with it ever raine: if no fogs or mists oppresse the ayre, and so forth of all the rest which are before shewed, are most certaine and infallible tokens of a very wholesome and healthfull yeere, which will ever follow after.

The preservation of heakh.

Now for the preservation of your health, and to prevent all such sicknesses as are incident to follow in these casuall and dangerous yeeres: through every severall moneth in the yeere you shall observe these few precepts.

First in the moneth of Januarie you shall forbeare to let bloud, unlesse upon violent extremity, and that the signe be exceeding good for the same, you shall drink white wine in the morning fasting, & rub your head with a course Towell very hard, but yet cleane, for it is a most wholsome friction.

In the moneth of February, you shall not let bloud for wantonnesse, but neede: you shall forbeare Hearb-pottage, for at that time onely they are least wholesome: you shall keepe the soales of your feete from wet, and use every morning your former friction.

In the moneth of March, the signe being good, you may let bloud according to your youth, strength, and necessitie: you may take hot and sweet meats & drinkes, especially Almonds, Figs and Reyzins, and use also your former friction.

In the moneth of Aprill, you may bleed as in the moneth of March: in it also you may purge, by the order of a learned directer: let your dyet be hot and fresh meats, and your drink temperate: also in this moneth your former friction is exceeding wholesome.

In the moneth of May be no sluggard, for the bed is unwholsome. Clarified Whay is this moneth a most soveraine drink, and Sage with sweet Butter is a most excellent breakfast: young Lettuce is an approved good Sallet, and the in-

trals

trals or offall of Beasts would by all meanes be refused, it is also good to let bloud in this moneth onely for necessity, and not for pleasure, and beware by all meanes, not to goe wetshooed in the dewe in the morning.

In the moneth of June observe the dyet of May, or if you be of youthfull bloud, it is not amisse if it be a little cooler, and for bleeding let it be for urgent necessity.

In the moneth of July eschew all wanton bed-sport: and if each morning you take a draught of clarified Butter-milk, it is very wholesome: use coole Julyps, and meats that are fresh, and not stirring: now forbeare Lettice, and bleed not, except it be in cause of great extremity.

In the moneth of August forbeare all manner of Worts, and Cabages, and generally all meates and Spices which are hot and inflaming: but by any meanes bleed not at all, except by the direction of most approved learning.

In the moneth of September you may eate any sort of ripe Fruits: you may bathe in hot Bathes, for colde causes, at your pleasure, and you may let bloud according to your necessity: those foods are best which are of lightest digestion, and those drinkes most wholesome which are rather strong then scowring.

In the moneth of October, spare not any bloud, except great extremity compell you, and for your dyet, let it be of such foodes as are most strong and nourishing, and your drink Beere or Ale, of indifferent strength, and now and then at the midst, and end of meales, a draught or two of such Wines as are pleasant, strong, and wholesome: Sallets of Flowers, preserved in Vinegar and Sugar, as either Violets, Broome-flowers, or Gelly-flowers of all kindes, or Sampyre, Purslane, or Beane-cods, preserved in pickell, are of excellent use, both in this moneth, and the other two which follow.

In the moneth of November open also no veine, but for great need, because the blood is then gathered together into the principall vessels: Bathing in this Moneth is utterly to bee refused, onely let your body bee kept warme,

and every colde humour or obſtruction, rather diſſolved by moderate frictions, as is ſhewed in the moneth of Januarie and Februarie, then by the violence of any other inward medicine. Shell-Fiſh in this moneth is very wholeſome, and ſo are all other ſorts of Fiſh, which are not too rawe or ſlymie,

In the Moneth of December blood-letting ſhould be alſo forborne, except upon ſome eſpeciall dayes, as after the five and twentieth day at the ſooneſt: and for your diet let it be meate which is hot and nouriſhing, but by no meanes that which breedeth melancholy bloud. Uſe ſtrong Wine and ſharpe Sauces: as for the warmth of your body, next unto good cloathing, let it rather proceed from exerciſe that is moderate, then from toaſting, or broiling your ſelfe againſt the fire, for in this Moneth that body can hardly be ſound whoſe ſhinnes are made pyde and motley with the fires ſcorching.

And thus much touching the experience of the Engliſh *Husbandman* in theſe fore-knowledges, and ayming after the times to come, being drawne from the obſervations and rules left us by ſucceſſion of times of thoſe learned Fathers, and other beſt knowne and approoved in theſe knowledges: yet I doe not binde every *Husbandman* to make as it were new Creeds of theſe Principles, but onely to give them to his memorie, as things that will neither oppreſſe nor hurt it, and if in any ſeldome-ſeene particularity, any ſhall vary from the purpoſe of the relation, to remember that there is above us a God of all Truth and Knowledge, who will diſpoſe and governe all things, according to his good Will and Pleaſure: to which let every Creature ſubmit, in as much as he onely knoweth what is for mankinde moſt beſt and moſt convenient.

CHAP.

CHAP. IIII.

Of the scituation of the Husbandmans house; the necessaries thereto belonging, together with the modell thereof.

SInce coverture is one of the necessariest things belonging unto mans life, and that it was the first thing that ever man invented, I thinke it not amisse before I enter into any other part of Husbandrie to begin with the *Husbandmans* house, without which no Husbandrie can bee maintained or preserved. And albeit the generall *Husbandman* must take such a house as hee can conveniently get, and according to the custome and abilitie of the soyle wherein he liveth; for many Countries are very much unprovided of generall materialls for well building: some wanting timber, some stone, some lime, some one thing, some another: yet to that *Husbandman* whom God hath enabled with power both of riches, and every other necessarie fit to have all things in a comely convenientnesse about him, if hee desire to plant himselfe decently and profitably, I would then advise him to chuse for his scituation no high hill, or great promontarie (the seate of Princes Courts) where he may be gazed upon by the eye of every traveller, but some pretty hard knole of constant and firme earth, rather ascending then descending, free from the danger of water, and being invironed either with some pretie Groves, of tall young spiers, or else with rowes of greater timber, which besides the pleasure and profit thereof (having wood so neere a mans dore) the shelter will be most excellent to keepe off the bleakenesse of the sharpe stormes and tempests in Winter, and be an excellent Wormestall for Cattell in the Summer But why doe I runne into this large field of Scituation, since it is granted by all men, that a full

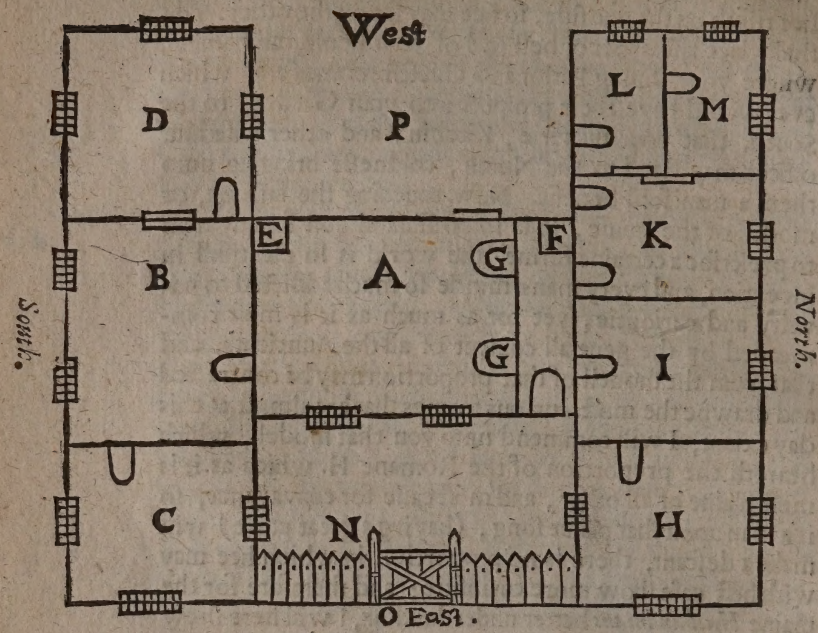
perfection of Scituation for a Country house can no where be found, let mee onely advise our *Husbandman* to accept of what God and Nature hath liberally bestowed upon him, that is, to bestowe his cost upon his owne Inheritance, not others Fee-simples, for so like the hedge-Sparrowe he shall build for the Cuckoe, and when he would be most warme will perish for shelter.

To helpe defects.

Let him in the scituation of his house, where hee findes defects, apply himselfe to amend them, as where there wants wood, there to plant it, where there wants water there to search for it, where there is too much of any thing to abate it, and where there is too little of any thing there to encrease it: onely let him infallibly observe (as neere as he can) to place his house in a good and wholsome ayre; for what availes any thing, if his lodging bee unwholsome. Next a good ayre let him search for good neighbours, for peacefulnesse is a downe-bed, and disquiet a continuall Allaram; neither be neere Garisons where the Drummes are ever beating, nor brawling persons where contention is alwayes waking: let not your house bee too neere great Rivers or Brookes, they may smile in Summer, but they will be angrie in Winter, and it is better to have them wash your Grounds then wet your house, besides they oft vomit forth ill ayres, and are in their owne natures Aguish and unwholsome: yet this house would be planted, if possible, neere to the over-looking or view of some River, or fresh running Brooke, but by no meanes upon the verge of the River, nor within the danger of the overflow thereof: for the one is subject to too much coldnesse and moisture, the other to overflowing. I would not have our *Husbandman* in his building to imitate *Babell* for height, nor *Babilon* for spatiousnesse, but to keepe a moderation suitable to his calling, for great Cages make not good Birds, nor huge Buildings hospitable Owners. You shall plant the face, or fore-front of your house, upon the rising of the Sunne, that the vigour of his warmth may

may at no time depart from some part thereof, but that as hee riseth on the one side, so hee may set on the other. You shall place the upper or best end of your house, as namely, where your dining Parlor and chiefest roomes are, which ever would have their prospect into your Garden, to the South, that your Butterie, Kitchin, and other inferiour offices may stand to the North, coldnesse bringing unto them a manifold benefit. Now touching the fashion, or modell of the house, it is impossible almost for any man to prescribe a certaine forme, the world is so plentifull in invention, and every mans minde so much addicted to novelty and curiositie, yet for as much as it is most commended by the generall consent of all the Auncients, and that from the modell of that proportion may be contracted and drawne the most curious formes that are almost at this day extant, I will commend unto you that modell, which beareth the proportion of the Romane H. which as it is most plaine of all other, and most easie for convayance, so if a man upon that plaine song, (having a great purse) will make a descant, there is no proportion in which hee may with best ease show more curiositie; and therefore for the plaine *Husbandmans* better understanding, I will here shew him a *fac simile* (for to adde a scale were needlesse in this generall worke, all men not being desirous to build of one bignesse) and this it is:

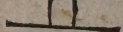
Here

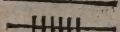


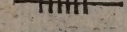
Here you behold the modell of a plaine Country mans houſe, without plaſter or imboſture, becauſe it is to be intended, that it is as well to be built of ſtudde and plaſter, as of lime and ſtone; or if timber bee not plentifull, it may be built of courſer wood, and covered with lime and haire; yet if a man would beſtow coſt in this modell, the foure inward corners of the hall would be convenient for foure turrets, and the foure gavell ends being thruſt out with bay windowes, might be formed in any curious manner: and where I place a gate and a plaine pale, might bee either a tarriſſe, or a gatehouſe, of any faſhion whatſoever; beſides all thoſe windowes which I make plaine, might be made bay windowes, either with battlements, or without; but the ſcope of my booke tendeth only to the uſe of the honeſt *Husbandman*, and not to inſtruct men of dignity, who in Archi-

Architecture are able wonderfully to controle me, therefore that the *Husbandman* may know the use of this *fac simile*, he shall understand it by this which followeth.

A. Signifieth the great Hall.
B. The dining Parlor for entertainment of strangers.
C. An inward Closset within the Parlor for the Mistrisses use, for necessaries.
D. A strangers lodging within the Parlor.
E. A staire-case into the roomes over the Parlor.
F. A staire-case into the Good-mans roomes over the Kitchin and Buttery.
G. The Skreene in the Hall.
H. An inward Cellar within the Buttery, which may serve for a Larder.
I. The Buttery.
K. The Kitchin, in whose Range may be placed a Brewing Lead, and convenient Ovens, the brewing vessels adjoyning.
L. The Dairy house for necessary businesse.
M. The Milke-house.
N. A faire sawne pale before the formost Court.
O. The great gate to ride in at to the Hall dore.
P. A place where a Pumpe would be placed to serve the offices of the house.

 This figure signifieth the dores of the house.

 This figure signifieth the Windowes of the house.

 This figure signifieth the Chimneyes of the house.

Now you shall further understand, that on the South side of your house, you shall plant your Garden and Orchard, as wel for the prospect therof to all your best rooms, as also because your house will bee a defence against the Northerne coldnesse, whereby your fruits wil much better prosper. You shall on the West side of your house, within your inward dairy and kitchin Court, fence in a large base Court, in the midst whereof would be a faire large Pond,

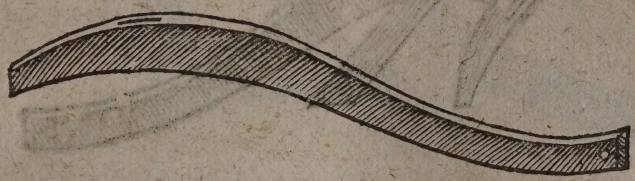
well ston'd and gravelled in the bottome, in which your Cattell may drinke, and Horses when necessitie shall urge be washt: for I doe by no meanes allow washing of Horses after instant labour. Neere to this Pond you shall build your Dove-coate, for Pigions delight much in the water: and you shall by no meanes make your Dove-house too high, for Pigions cannot endure a high Mount, but you shall build it moderately, cleane, neate and close, with water Pentisses to keepe away Vermine. On the North side of your base-court you shall build your Stables, Oxe-house, Cow-house, and Swine-coates, the dores and windowes opening all to the South. On the South side of the base-court, you shall build your Hay-barnes, Corne-barnes, Pullen-houses for Hennes, Capons, Duckes, and Geese, your French Kilne, and Malting flowres, with such like necessaries: and over crosse betwixt both these sides, you shal build your bound Hovels, to carie your Pease, of good and sufficient timber, under which you shall place when they are out of use your Carts, Waynes, Tumbrels, Ploughes, Harrowes, and such like, together with Plough-timber, and Axletrees: all which would very carefully be kept from wet, which of all things doth sooneſt rot and consume them. And thus much of the *Husbandmans* house, and the necessaries thereto belonging.

CHAP. V.

Of the severall parts and members of an ordinary Plough, and of the joyning of them together.

IF a Workman of any Trade, or Mysterie, cannot give directions how, and in what manner, the Tooles wherewith he worketh should be made or fashioned, doubtlesse hee shall never worke well with them, nor know when they are in temper, and when out. And so it fareth with the *Husbandman*, for if he know not how his Plough should be made,

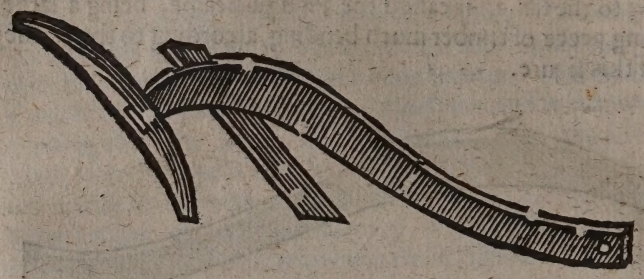
made, nor the severall members of which it consisteth, with the vertue and use of every member, it is impossible that ever hee should make a good furrow, or turne over his ground in Husbandly manner: Therefore that every *Husbandman* may know how a well shaped Plough is made, hee shall understand that the first member thereof, as being the strongest and most principallest peece of timber belonging to the same, is called the Plough-beame, being a large long peece of timber much bending, according to the forme of this figure.



This beame hath no certaine length nor thickenesse, but is proportioned according to the ground, for if it be for a clay ground, the length is almost seaven foote, if for any other mixt or lighter earth, then five or sixe foote is long enough.

The second member or part of the Plough, is called the skeath, and is a peece of wood of two foote and a halfe in length, aud of eight inches in breadth, and two inches in thickenesse: it is driven extreamely hard into the Plough-beame, slope-wise, so that joyned they present this figure.

The third part is called the Ploughes principall Hale, and doth belong to the left hand, being a long bent peece of wood, somewhat strong in the midst, and so slender at the upper end, that a man may easily gripe it, which being fixed with the rest, presenteth this figure.



The fourth part is the Plough head, which must be fixed with the Skeath and the Hale all at one instant in two severall mortisse-holes: it is a flat peece of timber, almost three foote in length if it be for clay ground, otherwise shorter, of brêadth seaven inches, and of thicknesse two inches and a halfe, which being joyned to the rest presenteth this figure

The

The fift part is the Plough ſpindels, which are two ſmall round peeces of wood, which coupleth together the Hales, as in this figure.

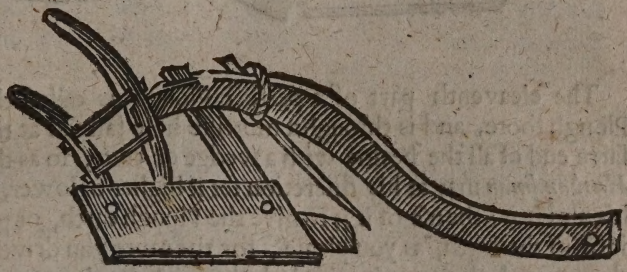
The ſixt part is the right hand Hale, through which the other end of the ſpindels runne, and is much ſlenderer then the left hand Hale, for it is put to no force, but is onely a ſtay and ayde to the Plough-houlder when he commeth in heavy, ſtiffe, and ſtrong worke, and being joyned with the reſt, preſenteth this figure.

The ſeaventh part is the Plough-reſt, which is a ſmall peece of wood, which is fixt at one end in the further nick of the Plough head, and the other end to the Ploughs right-hand hale, as you may ſee by this figure.

The eight part is called the ſhelboard, and is a broad board of more then an inch thickneſſe, which covereth all the right ſide of the Plough, and is faſtned with two ſtrong pinnes of wood through the ſkeath, and the right-hand hale, according to this figure.

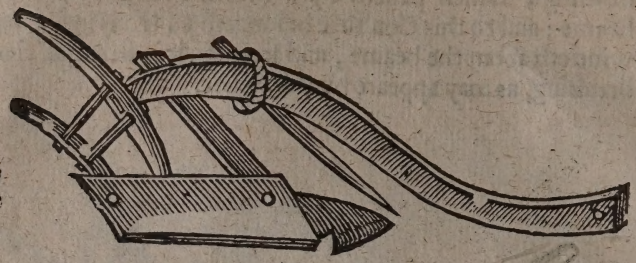
The

The ninth part is the Coulture, which is a long peece of Iron, made sharpe at the neather end, and also sharpe on one side, and being for a stiffe clay, it must be straight without bending, which passeth by a mortisse-hole through the beame; and to this Coulture belongeth an Iron ring, which windeth about the beame, and keepeth it in strength from breaking, as may appeare by this figure.



The tenth part of a compleate Plough, is the Share, which is fixed to the Plough head, and is that which cutteth and turneth up the earth: if it be for a mixt earth, then it is made without a wing, or with a very small one, but if it be for a deepe, or stiffe clay, then it is made with a large wing, or an outward point, like the figure following.

The

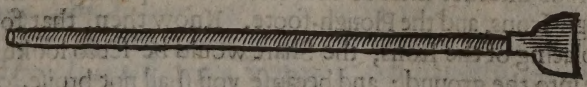


The eleaventh part of a perfect Plough is called the Plough foote, and is through a mortisse-hole fastned at the farre end of all the beame with a wedge or two, so as the *Husbandman* may at his discretion set it higher or lower, at his pleasure: the use of it is to give the Plough earth, or put it from the earth, as you please, for the more you drive it downward, the more it raiseth the beame from the ground, and maketh the Irons forsake the earth, and the more you drive it upward, the more it letteth downe the beame, and so maketh the Irons bite the sorer; the figure wherof is this.

Thus have you all the parts and members of a Plough, and how they bee knit and joyned together, wherein I would wish you to observe that your Plough-wright ever

ever rather give your Plough land then put her from the land, that is, rather leaning towards the earth and biting sore, then ever slipping out of the ground: for if it have too much earth, the *Husbandman* may help it in the holding; but if it have too little, then of necessity it must make foule worke: but for as much as the error and amends lye both in the office of the Plough-wright, I will not trouble the *Husbandman* with the reformation thereof.

Now you shall understand that there is one other thing belonging to the Plough, which albe it be no member thereof, yet is it so necessary, that the *Husbandman* which liveth in durty and stiffe Clayes, can never goe to Plough without it, and it is called the Aker-staffe, being a pretty bigge cudgell, of about a yard in length, with an Iron spud at the end, according to this figure:



This Aker-staffe the *Husbandman* is ever to carry within his Plough, and when at any time the Irons, Shelboard, or Plough, are choaked with durt, clay, or filth, which will cling about the old stubble; then with this Aker-staffe you shall put the same off (your Plough still going) and so keepe her cleane and smooth that your worke may lye the handsommer; and this you must ever doe with your right hand: for the Plough choaketh ever on the shelboard side, and betweene the Irons. And thus much touching the perfect Plough, and the members thereof.

CHAP. VI.

How the Husbandman shall temper his Plough, and make her fit for his worke.

A Plough is to a *Husbandman* like an Instrument in the hand of a Musitian, which if it be out of tune can never make good Musick, and so the Plough, being out of order, if the *Husbandman* have not the cunning to temper it, and set it in the right way, it is impossible that ever his labour should come to good end.

It is very necessarie then that every good *Husbandman* know that a Plough being perfectly well made, the good order or disorder thereof consisteth in the placing of the Plough-Irons, and the Plough-foote. Know then, that for the placing of the Irons, the Share would be set to looke a little into the ground: and because you shall not bruise, or turne the point thereof, you shall knocke it fast upon the head, either with a crooked Rams-horne, or else with some piece of soft Ash-wood: and you shall observe that it stand plaine, flat, and levell, without wrying, or turning either upward or downward: for if it runne not even upon the earth, it will never make a good furrow, onely as before I said, the point must looke a little downward.

Now, for the Coulture, you must place it slope-wise through the beame, so as the point of it, and the point of the Share may as it were touch the ground at one instant, yet if the Coulture point be a little thought the longer, it shall not be amisse: yet for a more certaine direction, and to trie whether your Irons stand true I or no, you shall take a string, and measure from the mor-tisse-hole through which the Coulture passeth, to the point of the Coulture, and so keeping your upper hand constant, lay the same length to the point of your share, and if one measure serve them both right, there being no difference betweene them, then the

the Irons ſtand true for their length, otherwiſe they ſtand falſe.

Now your Coulture albe it ſtand true for the length, yet it may ſtand either too much to the land, or too much from the land, either of which is a great errour, and will keepe the Plough from going true: your Coulture therefore ſhall have certaine wedges of olde dry Aſh wood, that is to ſay, one before the Coulture on the upper ſide the beame, and another on the land ſide, or left ſide, the Coulture on the upper ſide the beame alſo; then you ſhall have another wedge behind the Coulture underneath the beame, and one on the furrow ſide, or right ſide, the beame underneath alſo. Now, if your Coulture have too much land, then you ſhall drive in your upper ſide wedge, and eaſe the contrary: if it have too little land, then you ſhall contrarily drive in your right ſide under wedge, and eaſe the other: If your Coulture ſtand too forward, then you ſhall drive in your upper wedge which ſtandeth before the Coulture; and if it ſtand too backward, and too neere your Share, then you ſhall drive in your under wedge which ſtandeth behinde the Coulture: if your Coulture ſtandeth awry any way, then are either your ſide wedges too ſmall, or elſe not even and plain cut, which faults you muſt amend, and then all will bee perfect. Now, when your Irons are juſt and truly placed, then you ſhall drive in every wedge hard and firme, that no ſhaking or other ſtraine may looſen them: as for the Plough foote it alſo muſt have a wedge or two, which when your Plough goeth right, and to your contentment (for the foote will keepe it from ſinking or riſing) then you ſhall alſo drive them in hard, that the foote may not ſtirre from the true place where you did ſet it. And that theſe things when a man commeth into the field may not be to ſeeke, it is the office of every good *Husbandman* never to goe forth with his Plough, but to have his Hatchet in a ſocket, fixt to his Plough beame, and a good peece of hard wedge wood, in caſe any of your wedges ſhould ſhake out and be loſt.

Of holding the Plough.

When your Plough is thus ordered & tempered in good manner, and made fit for her worke, it then resteth that you know the skill and advantages in holding thereof, which indeed are rules of much diversity, for if it be a stiffe black clay which you plough, then can you not plough too deepe, nor make your furrowes too bigge: if it bee a rich hassell ground, and not much binding, then reasonable furrowes, laid close, are the best: but if it bee any binding, stonie, or sandie ground, then you cannot make your furrowes too small. As touching the governing of your Plough, if you see shee taketh too much land, then you shall writh your left hand a little to the left side, and raise your Plough-rest somewhat from the ground: if shee taketh too little earth, then you shall raise up your left hand, and carrie your Plough as in a direct line: If your Plough-Irons forbeare and will not bite on the earth at all, then it is a signe that you hang too heavie on the Plough hales, raising the head of the Plough from the ground, which errour you must amend, and of the two rather raise it up behinde then before; but to doe neither is best, for the Plough hale is a thing for the hand to governe, and not to make a leaning stock of: And thus much touching the tempering of the Plough, and making her fit for worke.

CHAP. VII.

Of the manner of Ploughing all simple Earths, which are uncompounded.

THat many famous and learned men, both in France, Spaine, Italy, and Germany, have spent all their best time in shewing unto the world the excellencie of their experiences, in this onely renowned Art of Husbandry, their large and learned Volumes, most excellently written, in that kinde, are witnesses: from whence we by translations have gotten some contentment, though but small profit; because those

those forraine climates, differing much from ours, both in nature of earth, and temper of Ayre, the rules and observations belonging unto them can be little available to us, more then to know what is done in such parts, a thing more appertaining to our conference then practise. But now, that other Kingdomes may see, though we write lesse, yet wee know as much as belongeth to the office of the English *Husbandman*, I, though the meanest of many millions, have undertaken to deliver unto the world all the true rudiments, observations, and knowledges whatsoever, which hath any affinitie or alliance with English Husbandry. And for as much as the best and principallest part of Husbandrie consisteth in the ploughing and earing of the ground (for in that onely *Adam* began his first labours) I thinke it not unmeete, first to treate of that subject, proceeding so from branch to branch, till I have given every one sufficient knowledge.

To speake then first of the Tilling of Grounds. You shall well understand, that it is the office of every good *Husbandman* before hee put his Plough into the earth, truly to consider the nature of his Grounds, and which is of which qualitie and temper. To proceede then to our purpose; all soyles whatsoever, in this our Kingdome of England, are reduced into two kindes onely, that is to say, Simple or Compound. Simple, are those which have no mixture with others of a contrary quality, as are your stiffe Clayes, or your loose sands: your stiffe Clayes are likewise divers, as a black Clay, a blew Clay, and a Clay like unto Marble. Your sands are also divers, as a red sand, a white sand, a yellow sand, and a sand like unto dust. Your mixt earths are where any of these Clayes and Sands are equally or unindifferently mixed together, as shall be at large declared hereafter. Now as touching the tilling of your simple Clayes, it is to be noted, that the black Clay, of all earth, is the most fruitfull, and demandeth from the *Husbandman* the least toyle, yet bringeth forth his encrease in the greatest abundance: it will well and sufficiently bring forth three crops ere it desire rest:

namely, the first of Barley, the second of Peaſe, and the third of Wheate: It doth not deſire much Manure, for it is naturally of it ſelfe ſo fat, rich, and fruitfull, that if you adde ſtrength unto his ſtrength, by heaping Manure or Compaſſe thereupon, you make it either blaſt, and mildew the Corne that growes, with the too much fatneſſe of the earth, or elſe through his extreame rankneſſe, to bring it up in ſuch abundance, that it is not able to ſtand upright when it is ſhot up, but falling downe flat to the ground, and the eares of Corne ſmothering one another, they bring forth nothing but light Corne, like an emptie huske, without a kirnell. The beſt Manure or Compaſſe therefore that you can give ſuch ground, is then to plough it in orderly and due ſeaſons, as thus: you ſhall begin to fallow, or breake up this ſoyle, at the beginning of May, at which time you ſhall plough it deepe, and take up a large furrow, and if your Lands lye any thing flat, it ſhall be meete that you begin on the ridge of the land, and turne all your furrowes upward, but if your Lands lye high and upright, then ſhall you begin in the furrow, and turne all your furrowes downward, which is called of *Husbandmen*, the caſting downe of Land. This firſt ploughing of Ground, or as *Husbandmen* terme it, the firſt ardor, is called fallowing: the ſecond ardor, which wee call ſtirring of ground, or ſommer ſtirring, you ſhall begin in July, which is of great conſequence, for by meanes of it you ſhal kill all manner of weeds and thiſtles that would annoy your Land. In this ardor you muſt oft obſerve, that if when you fallowed you did ſet up your Land, then now when you ſtirre you muſt caſt downe your Land, and ſo contrarily, if before you did caſt downe, then now you muſt ſet up: your third ardor, which is called of *Husbandmen*, winter ridgeing, or ſetting up Land for the whole yeere, you ſhall begin at the latter end of September, and you muſt ever obſerve that in this third ardor you doe alwayes ridge up your Land, that is to ſay, you muſt turne every furrow upward, and lay them as cloſe together as may be; for ſhould you doe otherwiſe,

that

that is to say, either lay them flat or loosely, the winter season would so beat and bake them together, that when you should sowe your seede, you would hardly get your Plough into the ground.

Now your fourth and last ardor, which must bee when you sowe your seede, you shall begin ever about the midst of March, at least one weeke before our Ladies day, commonly called the Annuntiation of *Mary*, and this ardor you shall ever plough downward, laying your ridges very well open, and you shall ever observe in this ardor, first to sowe your seede, and then after to plough your ground, turning your seed into the earth, which is called of *Husbandmen*, sowing under furrow: as soone as your ground is ploughed, you shall harrow it with an Harrow, whose teeth are all of wood, for these simple earths are of easie temper, and will of themselves fall to dust; then after you have thus sowne your ground, if then there remaine any clots or lumps of earth unbroken, you shall let them rest till after the next shower of raine, at which time you shall either with a heavie rouler, or the back side of your Harrowes, run over your Lands, which is called the sleighting of ground, and it will not onely breake such clots to dust, but also lay your Land plaine and smooth, leaving no impediment to hinder the Corne from sprouting and comming forth. In this same order as you are appointed for this black Clay, in this same manner you shall order both your blew Clay, and your Clay which is like unto Marble. Now as touching the Plough which is fittest for these Clayes, it must be large and strong, the beame long and well bending, the head thick and large, the Skeeth broad, strong, and well sloaping, the Share with a very large wing, craving much earth, and the Coulter long, thick, and very straight.

Now touching those lands which are simple and uncompounded, you shall understand that every good *Husbandman* must beginne his first ardor (which is to fallow them) at the beginning of Januarie, he must summer-stirre them, which is the second ardor, at the latter end of Aprill,

he

he ſhall caſt them downe againe, which is called foyling of Land, at the beginning of July, which is the third ardor, and wherein is to be noted, that howſoever all other ardors are ploughed, yet this muſt ever be caſt downward: the fourth ardor, which is winter-ſtirring or winter-ridgeing, muſt ever begin at the end of September, and the fift and laſt ardor muſt be performed when you ſowe your Ground, which would be at the middeſt of May, at the ſooneſt; and if your leaſure and abilitie will give leave, if you turne over your Ground againe in Januarie, it will be much better, for theſe ſands can never have too much ploughing, nor too much Manure, and therefore for them both, you ſhall apply them ſo oft as your leaſure will conveniently ſerve, making no ſpare when either the way or opportunity will give you leave. Now for as much as all ſands, being of a hot nature, are the fitteſt to bring forth Rye, which is a graine delighting in drineſſe onely, you ſhall underſtand, that then you ſhall not neede to plough your Ground above foure times over, that is, you ſhall fallow, Summer ſtirre, foyle, and in September ſowe your Corne: and as theſe ardors ſerve the red ſand, ſo are they ſufficient for your white ſand, and your yellow ſand alſo. As touching the Ploughes fit for theſe light earths, they would be little and ſtrong, having a ſhort ſlender beame and a crooked; a narrow and thinne head, a ſlender skeeth, a ſhare without a wing, a Coulter thinne and very crooked, and a paire of Hales much bending forward towards the man; and with this manner of Plough you may plough divers mixt and compounded earths, as the blacke Clay and red ſand, or the red ſand and white gravell. And thus much as touching earths that are ſimple and uncompounded. I will now proceede to the particular Huſbandrie of theſe uncompounded earths.

CHAP.

CHAP. VIII.

The manner of Ploughing the rich, stiffe, blacke Clay, his Earring, Plough, and other Instruments.

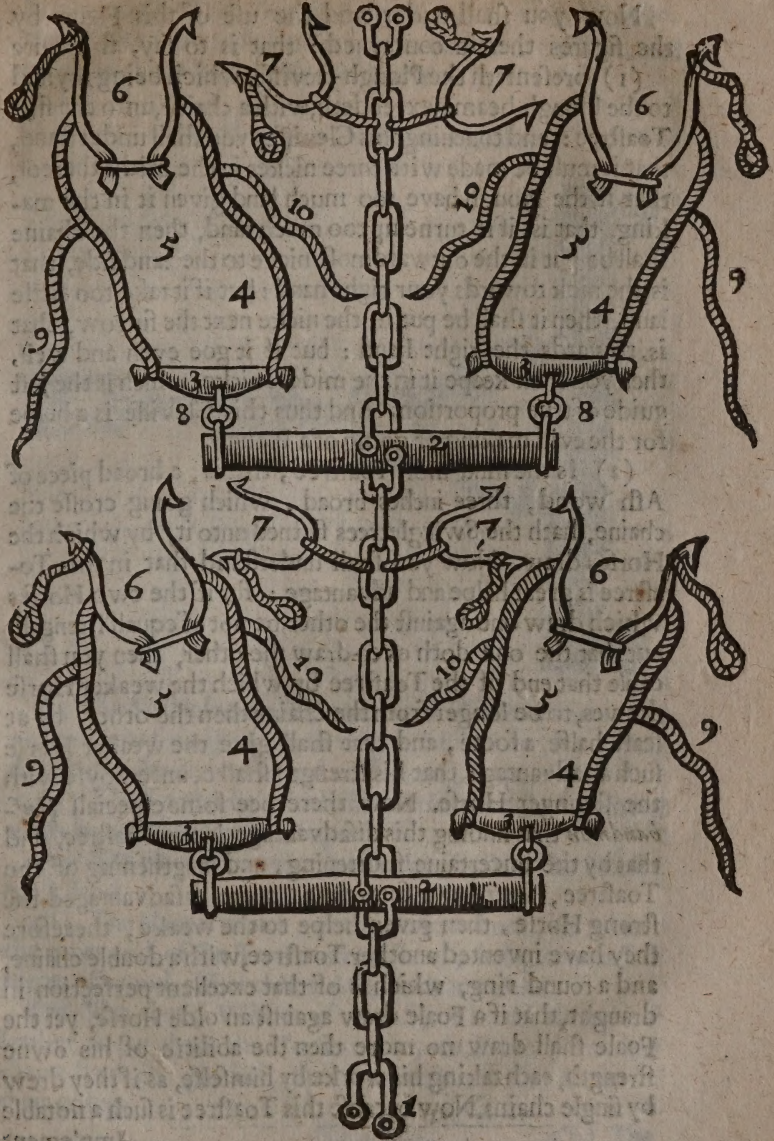
OF all the Soyles in this Kingdome, there is none so rich & fertile (so it be well handled & Husbanded) as is that which we call the stiffe black clay, & indeed is more blacker to look on then any other Soyle, yet sometimes it wil turn up very blewish, with many white veines in it, which is a very speciall note to know his fruitfulnesse; for that blewish earth mixt with white, is nothing else but very rich Marle, an earth that in Cheshire, Lancashire, and many other Countries, serveth to Manure and make fat their barraineſt land in such sort, that it will beare Corne seaven yeeres together. This black Clay as it is the best soyle, well Husbanded, so it is of all soyles the worst if it be ill Husbanded: for if it lose but one ardor, or seasonable Ploughing, it will not be recovered in foure yeeres after, but will naturally of it selfe put forth wilde Oates, Thistles, and all manner of offensive weedes, as Cockle, Darnell, and such like: his labour is strong, heavie, and sore, unto the cattell that tilleth it, but to the *Husbandman* is more easie then any other soyle; for this asketh but foure times Ploughing over at the most, where divers other soyles aske five times, and sixe times, as shall bee shewed hereafter. But to come to the Ploughing of this soyle, I hold it meete to begin with the beginning of the yeere, which with *Husbandmen* is at Plough-day, being ever the first Munday after the Twelfe-day, at which time you shall goe forth with your draught, and begin to Plough your Peasearth, that is, the earth where you meane to sowe your Pease, or Beanes: for I must give you to understand, that these Clayes are ever more naturall for Beanes then Pease, not but that they will beare both alike, onely the *Husbandman* imployeth them more for Beanes, becaũse Pease and Fitches will grow upon every soyle; but Beanes will grow no where

but on the Clayes onely. This Peaſe-earth is ever where Barley grew the yeere before, and hath the Stubble yet remaining thereon. You ſhall Plough this Peaſe-earth ever upward, that is, you ſhall begin on the ridge of the land, and turne all your furrowes up, one againſt another, except your lands lye too high (which ſeldome can be ſeene) and then you ſhall begin at the furrow, and caſt downe your land.

Now, when you have Ploughed all your Peaſe-ground, you ſhall let it ſo lye, till it have received divers Froſts, ſome Raine, and then a faire Seaſon, which betwixt Plough-day and Saint *Valentines* day you ſhall be ſure to enjoy: and this is called, *The letting of Land lye to baite:* for without this reſt, and theſe Seaſons, it is impoſſible to make theſe Clayes harrow, or yeeld any good mould at all. After your Land hath received his kindely baite, then you ſhall caſt in your Seede, of Beanes, or Peaſe: but in my conceit, an equall mixture of them is the beſt ſeede of all, for if the one faile, the other will be ſure to hit: and when your land is ſowne, you ſhall harrow it with a Harrow that hath woodden teeth.

The next Ardor after this, is the ſowing of your Barley in your fallow field: the next is the fallowing of your ground for Barley the next yeere: the next Ardor is the Summer-ſtirring of that which you fallowed: the next is the foyling of that which you Summer-ſtirde: and the laſt is the Winter rigging of that which you foil'd: of all which Ardors, and the manner of Ploughing them, with their Seaſons, I have written ſufficiently in a former chapter, where I ſpeak of ſimple earths uncompounded.

Now whereas I told you before that theſe Clayes were heavie work for your Cattell, it is neceſſary that I ſhew you how to eaſe them, and which way they may draw to their moſt advantage, which onely is by drawing in Beare-geares, an invention the skilfull *Husbandman* hath found out, wherin foure Horſes ſhall draw as much as ſixe, and ſixe as eight, being geared or harneſſed in any other contrary faſhion. Now becauſe the name only bettereth not your knowledge, you ſhall here behold the figure and manner thereof.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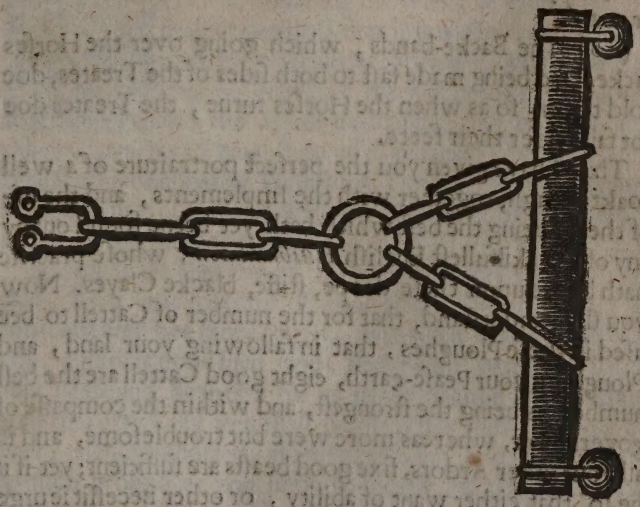
Now you ſhall underſtand the uſe of this Figure by the figures therein contayned; that is to ſay, the figure (1) preſenteth the Plough-cleviſſe, which being joyned to the Plough-beame, extendeth, with a chaine, unto the firſt Toaſtree: and touching this Cleviſſe, you ſhall underſtand, that it muſt be made with three nickes in the midſt thereof, that if the Plough have too much land given it in the making, that is, if it turne up too much land, then the chaine ſhall be put in the outwardmoſt nicke to the land ſide, that is, the nick towards your right hand: but if it take too little land, then it ſhall be put in the nicke next the furrow, that is, towards the right hand: but if it goe even and well, then you ſhall keepe it in the middle nicke, which is the juſt guide of true proportion. And thus this Cleviſſe is a helpe for the evill making or going of a Plough.

(2) Is the hind-moſt Toaſtree, that is, a broad piece of Aſh wood, three inches broad, which going croſſe the chaine, hath the Swingletrees faſtned unto it, by which the Horſes draw. Now you ſhall underſtand that in this Toaſtree is great helpe and advantage: for if the two Horſes which draw one againſt the other, be not of equall ſtrength, but that the one doth over-draw the other, then you ſhall cauſe that end of the Toaſtree by which the weaker Horſe drawes, to be longer from the chaine then the other, by at leaſt halfe a foote, and that ſhall give the weaker Horſe ſuch an advantage, that his ſtrength ſhall counterpoyſe with the ſtronger Horſe. Now there bee ſome eſpeciall *Husbandmen* that finding this diſadvantage in the Toaſtree, and that by the uncertaine ſhortening, and lengthening of the Toaſtree, they have ſometimes more diſadvantaged the ſtrong Horſe, then given helpe to the weake, therefore they have invented another Toaſtree, with a double chaine, and a round ring, which is of that excellent perfection in draught, that if a Foale draw againſt an olde Horſe, yet the Foale ſhall draw no more then the abilitie of his owne ſtrength, each taking his worke by himſelfe, as if they drew by ſingle chains. Now becauſe this Toaſtree is ſuch a notable

Implement

Implement both in Plough, Cart, or Waine, and so worthy to bee imitated of all good Husbands, I thinke it not amisse to shew you the figure thereof.

The Toastree with double chaines.



(3) The Swingletrees, being pieces of Ash wood cut in proportion afore-shewed, to which the Treates, by which the Horses draw, are fastned with strong loopes.

(4) The Treates by which the Horses draw, being strong cords made of the best Hempe.

(5) The place betweene the Treates, where the Horses must stand.

(6) The Hames which girt the Collers about, to which the other end of the Treates are fastned, being compassed pieces of wood, either cleane Ash, or cleane Oake.

(7) The round Withes of wood, or broad thongs of leather, to put about the Horses necke, to beare the maine chaine from the ground, that it trouble not the Horses in their going.

(8) The Single-links of Iron, which joyne the Swingle-trees unto the Toastrees.

(9) The Belly-bands, which passe under the belly of the Horse, and are made fast to both sides of the Treates, keeping them downe, that when the Horse drawes, his coller may not choake him: being made of good small line or coard.

(10) The Backe-bands, which going over the Horses backe, and being made fast to both sides of the Treates, doe hold them, so as when the Horses turne, the Treates doe not fall under their feete.

Thus I have given you the perfect portraiture of a well yoakt Plough, together with the Implements, and the use of them, being the best which hath yet beene found out by any of our skilfullest English *Husbandmen*, whose practise hath beene upon these deepe, stiffe, blacke Clayes. Now you shall understand, that for the number of Cattell to bee used in these Ploughes, that in fallowing your land, and Ploughing your Pease-earth, eight good Cattell are the best number, as being the strongest, and within the compasse of government, whereas more were but troublesome, and in all your other Ardors, sixe good beasts are sufficient; yet if it be so, that either want of ability, or other necessitie urge, you shall know that sixe beasts will suffice either to fallow, or to Plough Pease-earth, and foure beasts for every other Ardor or earing: and lesse then this number is most insufficient, as appeares by daily experience, when poore men kill their Cattell onely by putting them to over-much labour. And thus much touching the ploughing of the black Clay.

How many beasts in a Plough.

CHAP.

CHAP. IX.

The manner of Ploughing the white or gray Clay, his Earings, Plough, and Instruments.

NOW as touching the white or gray Clay, you shall understand that it is of divers and sundry natures, altering according to his tempers of wet or drineſſe: the wet being more tough, and the dry more brittle: his mixture and other Characters I have shewed in a former Chapter, wherfore for his manner of Ploughing (observing my first methode, which is to begin with the beginning of the yeere, I meane at Christmas) it is thus:

If you finde that any of this white or gray Clay, lying wet, have leſſe mixture of stone or chaulke in it, and so consequently bee more tough, as it doth many times fall out, and that upon such land, that yeare, you are to sowe your Peaſe and Beanes: for as in the former blacke Clay, so in this gray Clay you shall begin with your Peaſe-earth ever: then immediately after Plough-day, you shall plough up such ground as you finde so tough, in the selfe-same manner as you did plough the black Clay, and so let it lye to baite till the Frost have seasoned it, and then sowe it accordingly. But if you have no such tough land, but that it holdes it owne proper nature, being so mixt with small stones and chaulke, that it will breake in reasonable manner, then you shall stay till the latter end of Januarie, at what time, if the weather bee seasonable, and inclining to drineſſe, you shall beginne to plough your Peaſe-earth, in this manner: First, you shall cause your seedes-man to sowe the land with single casts, as was shewed upon the blacke Clay, with this caution, that the greater your seede is, (that is, the more Beanes you sowe) the greater must bee your quantity: and being sowne, you shall bring your Plough, and beginning at the furrow of the land, you shall plough every

Of sowing of Peaſe and Beanes.

every furrow downeward upon the Peaſe and Beanes: which is called ſowing of Peaſe-under furrow: and in this manner you ſhall ſow all your Peaſe and Beanes, which is cleane contrary to your blacke Clay. Beſides, whereas upon the ſtiffe Clay it is convenient to take as large furrowes as you pleaſe: upon this kinde of gray Clay you ſhall take as ſmall furrowes as is poſſible. Now the reaſon for this manner of Ploughing your Peaſe-earth, is, becauſe it is a light kinde of breaking earth, ſo that ſhould it be ſowne according to the ſtiffe blacke Clay, it would never cover your Peaſe, but leave them bare, both to bee deſtroyed by the Fowles of the ayre, and the bitterneſſe of the weather. As ſoone as your Peaſe and Beanes are riſen a fingers length above the earth, then if you finde that any of your lands doe lye very rough, and that the clots be great, it ſhall not be amiſſe, to take a payre of woodden Harrowes, and harrow over all your rough lands, the benefit whereof is this, that it will both breake the hard clots, and ſo give thoſe Peaſe leave to ſprout through the earth, which before lay bound in and drowned, and alſo lay your lands ſmooth and cleane, that the Mowers when they come to mowe your Peaſe and Beanes, ſhall have better worke, and mowe them with more eaſe, and much better to the owners profit. For you muſt underſtand that where you ſowe Beanes, there it is ever more profit to mowe them with Sythes, then to reape them with Hookes, and much ſooner, and with leſſe charge performed. The limitation of time for this Ardor or earing, is from the latter end of January untill the beginning of March, not forgetting this rule, that to ſowe your Peaſe and Beanes in a ſhewer, ſo it be no beating raine, is moſt profitable: becauſe they, as Wheat, take delight in a freſh and a moyſt mould.

Of ſowing of Barley.

After the beginning of March, you ſhall begin to ſowe your Barley upon that ground which the yeere before did lye fallow, and is commonly called your Tilth, or fallow field: and if any part of it conſiſt of ſtiffe and tough ground, then you ſhall, upon ſuch ground, ſowe your Barley under furrow,

furrow, in such manner and fashion as I described unto you for the sowing of your stiffe blacke Clay: but if it be (as for the most part these gray and white Clayes are) of a much lighter, and as it were, fussie temper, then you shall first plough your land upward, cleane and well, without baukes or stiches: and having so ploughed it, you shall then sowe it with Barley, that is to say, with double casts, I meane, bestowing twise so many casts of Barley, as you would doe if you were to sowe it with Pease. And as soone as you have sowne your Barley, you shall take a paire of woodden Harrowes, and harrow it as small as is possible: and this is called sowing above furrow.

Of sowing Oates.

Now if you have any land, which either through the badnesse of the soyle, or for want of Manure, is more barraine, and hard to bring forth then generally the rest of your land is, then you shall not bestowe Barley thereupon, but sowe it with Oates, in such manner and fashion as is appointed for the sowing of Pease, that is to say, if it bee stiffe ground you shall sowe it above furrow, if it be light ground, then you shall sowe it under furrow, knowing this for a rule, that the barraineſt ground will ever beare indifferent Oates, but if the ground have any small heart, then it will beare Oates in great abundance: neither neede you to be very precise for the oft ploughing of your ground before you sowe your Oates, because Oates will growe very well if they be sowne upon reasonable ground, at the first ploughing: whence it comes to passe, that many *Husbandmen* doe oft sowe their Oates where they should sowe their Pease, and in the same manner as they doe sowe their Pease, and it is held for a rule of good Husbandrie also: because if the ground be held any thing casuall for Pease, it is better to have good Oates then naughty Pease: besides, your Oates are both a necessary graine in the house, as for Oate-meale, for the pot, for Puddings, and such like, and also for the Stable, for Provender, and the feeding of all manner of Poultrie. The time for sowing of your Barley and Oates, is from the first of March till the first of Aprill, observing ever

to sowe your Oates first, and your Barley after, for it being onely a Summer graine, would participate as little as may be with any part of the Winter.

Of Fallowing

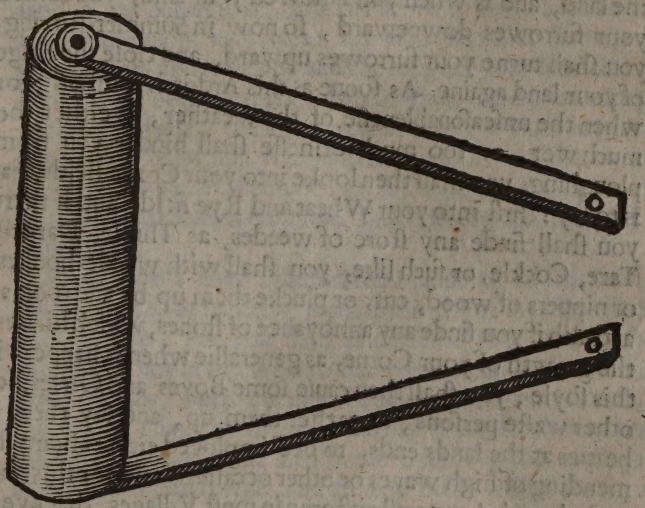
About the middest of Aprill you shall beginne to fallow that part of your ground, which you intend shall take rest that yeere, and so become your fallow or tilth-field. And in fallowing this gray or white Clay, you shall observe all those rules and ceremonies, which are formerly described for the fallowing of the stiffe blacke Clay, knowing that there is in this worke no difference betweene the blacke Clay, and the gray Clay, but both to be ploughed after one manner, that is to say, to have all the furrowes cast downeward, and the ridges of the lands laid largely open, and of a good depth, onely the furrowes which you turne upon this gray Clay must bee much smaller, and lesse then those which you turne upon your stiffe blacke Clay, because this earth is more naturally enclined to binde and cleave together then that of the blacke Clay. The time for fallowing of this Ground, is from the middest of Aprill untill the middest of May: at what time you shall perceive your Barley to appeare above the ground, so that then you shall beginne to sleight and smooth it: but not with backe Harrowes, as was described for the blacke Clay, because this gray Clay being not so fat and rich, but more enclined to fastnesse and hardnesse, therefore it will not sunder and breake so easily as the other: wherefore when you will smooth or sleight this Ground, you shall take a round piece of wood, being in compasse about at least thirty inches, and in length sixe foote, having at each end a strong pinne of Iron, to which making fast two small poales, by which the Horse shall draw, yet in such sort, that the round piece of wood may roule and turne about as the Horse drawes it: and with this you shall roule over all your Barley, and by the waight of the round piece of wood bruise and break all the hard clots asunder. This is called amongst *Husbandmen* a Rouler, and is for this purpose of sleighting and smoothing of grounds of great use and profit. Now you shal understand

Of sleighting Barley.

understand that you must not at any time sleight or smooth your Corne, but after a shower of Raine, for if the mould be not a little moistned, the rouler will not have power to breake it.

Now for as much as this rouler is of so good use, and yet not generally used in this Kingdome, I thinke it not amisse to shew you the figure thereof.

The great Rouler.



As soone as you have roulled over your Barley, and laid it so smooth as you can with your rouler, if then you perceive any hard clots, such as the rouler cannot breake, then you shal send forth your servants with long clotting beetels, made broad and flat, and with them you shall breake asunder all those hard clots, and so lay your Barley as smooth and cleane as is possible: the profit whereof you shall both finde in the multiplying of your Corne, and also in the saving of your Sythes from breaking, at such time as you

shall come to mowe your Corne, and gather in your Harvest.

Your Barley being thus laide smooth, you shall then follow your other necessarie businesses, as preparing of your fewell, and other needments for Houshold, untill the beginning of June, at which time you shall begin to Summer-stirre your fallow field, which shall bee done in all points after the same maner, as you did Summer-stirre your blacke Clay, that is to say, you shall begin in the ridge of the land, and as when you fallowed your land, you turned your furrowes downeward, so now in Summer-stirring, you shall turne your furrowes upward, and close the ridge of your land againe. As soone as this Ardor is finished, or when the unseasonablenesse of the weather, as either too much wet, or too much drinesse shall hinder you from ploughing, you shall then looke into your Corne fields, that is to say: first into your Wheat and Rye field, and if there you shall finde any store of weedes, as Thistle, Darnell, Tare, Cockle, or such like, you shall with weede-hookes, or nippers of wood, cut, or plucke them up by the rootes: and also if you finde any annoyance of stones, which hinders the growth of your Corne, as generallie when it happens in this soyle, you shall then cause some Boyes and Girles, or other waste persons, to gather them up, and lay them in heapes at the lands ends, to bee imployed either about the mending of high wayes or other occasions, and for this purpose there is a generall custome in most Villages, that every Housholder is bound to send out one servant to be imployed about this businesse: whence it comes to passe, that it is called common worke, as being done at the generall charge of the whole Parish. After you have weeded your Wheat and Rye, you shall then weede your Barley also, which being finished about the midst of July, you shall then begin to looke into your Medowes, and to the preparing of your Hay-harvest.

Of Summer-stirring.

Of weeding.

Of stone gathering.

Of foyling.

Now at such time as either the unseasonablenesse of the weather, or the growth of your grasse shall hinder you from

from following that busineſſe of Harveſt, you ſhall then looke into your fallow or tilth field againe, and whereas before at your Summer-ſtirring you ploughed your land upward; now you ſhall begin to foile, that is to ſay, you ſhall caſt your land againe, and open the ridge: and this Ardor of all other Ardors you muſt by no meanes neglect upon the gray, white Clay, becauſe it being moſt ſubject unto weede, and the hardeſt to bring to a fine mould, this Ardor of all others, doth both conſume the one, and makes perfect the other, and the drier Seaſon you doe foile your land in, the better it is, and the more it doth breake and ſunder the clots in pieces: for as in Summer-ſtirring the greater clots you raiſe up, and the rougher your land lies the better it is, becauſe it is a token of great ſtore of mould; ſo when you foile, the more you breake the clots in pieces, the better ſeaſon will your land take, and the richer it will be when the ſeede is ſowne into it: And the ſeaſon for the foiling of this ſoile is from the midſt of July till the midſt of September.

Now albe I have omitted the Manuring of this land in his due place, as namely, from the midſt of Aprill, till the end of May, yet you ſhall underſtand that of all other things it is not in any wiſe to bee neglected by the carefull *Husbandman*, both becauſe the ſoyle being not ſo rich as the blacke Clay, will very hardly bring forth his ſeede without Manure, and alſo becauſe it is for the moſt part ſubject unto much wet, and ſtones, both which are ſignes of cold and barrenneſſe. Now for thoſe Manures, which are beſt and moſt proper for this ſoile, you ſhall underſtand that all thoſe which I formerlie deſcribed for the blacke Clayes, as namely, Oxe or Cowes dung, Horſe dung and Sheepes dung, are alſo very good for this ſoile, and to be uſed in the ſame manner as is ſpecified in the former Chapter: but if you have not ſuch ſtore of this Manure as will ſerve to compaſſe your whole land, you ſhall then underſtand, that the blacke mud, or durt which lies in the bottome of olde ponds, or elſe ſtanding lakes, is alſo

Of Manuring.

a very good Manure for this soile, or else straw which is spread in high-wayes, and so rotted by the great concourse or use of much travelling, and after in the Spring-time shovelled up in great heapes, is a good Manure for this earth: but if you finde this soile to be subject to extraordinarie wet and coldnesse, you shall then know that the ashes either of wood, coale, or strawe, is a very good Manure for it. But above all other, and then which there is no Manure more excellent for cold and barraine clayes of this nature, the Pigions dung, or the dung of houshold Pullen, as Capons, Hennes, Chickins, Turkies, and such like, so there be no Goose-dung amongst it, is the best of all other: but not to be used in such sort as the other Manures, that is to say, to be laid in great heapes upon the land, or to be spread from the Cart upon the land, for neither is there such abundance of such Manure to be gotten, nor if there were, it would not be held for good Husbandrie to make lavish havock of a thing so precious.

The use of Pigion or Pullen-dung.

You shall then know that for the use of Pigion or Pullen-dung, it is thus: you shall first with your hand breake it as small as may bee, and then put it into the Hopper, in such sort as you put your Corne when you sowe it: and then looke how you sowe your Corne, in such sort you shall sowe your Pigion or Pullen-dung: which done, you shall immediately put your Barley into the same Hopper, and so sowe it after the Pigions or Pullen-dung: by which you are to understand that this kinde of manuring is to bee used onely in Seede-time, and at no other season. This Manure is of the same nature that sheepes Manure is, and doth last but onely for one yeere, onely it is much hotter, as being in the greatest extreamitie of heat. Now if it happen that you cannot get any of this Pigions or Pullen-dung, because it is scarce, and not in everie mans power; if then you take Lime and sowe it upon your land in such sort as is before said of the Pigions-dung, and then sowe your Corne after it, you shall finde great profit to come thereon, especially in colde wet soiles, such as

as for the most part, these gray white clayes are.

After your Land is soild, which worke would bee finished by the middest of September, then you shall begin to sowe your Wheat, Rye, and Maslin, which in all things must bee done as is before set downe for the blacke Clay, the choise of seede, and every observation being all one: for Wheat not taking delight in a very rich ground, doth prosper best upon this indifferent soile. Whence it comes that in these gray white clayes, you shall for the most part see more Wheat sowne, then any other Graine whatsoever. But as touching your Rye and Maslin, that ever desires a rich ground and a fine mould, and therefore you shall make choise of your better earth for that Seede, and also observe to helpe it with Manure, or else sheepes-folding, in such manner as is described in the former Chapter, where I spake of the sowing of Wheate, Rye, and Maslin. Of sowing Wheat.

As soone as you have sowne your Wheat, Rye, and Maslin, you shall then about the latter end of October, begin to Winter ridge, or set up your land for the whole yeere: which you shall doe in all points, as you doe upon the black Clay, without any change or alteration. And the limitation for this Ardor, is, from the latter end of October, untill the beginning of December, wherein your yeeres worke is made perfect and compleat. Of Winter-ridging.

Now you shall understand, that although I have in this generall sort passed over the Ardors and severall Earings of this white or gray Clay, any of which are in no wise to be neglected: yet there are sundrie other observations to bee held of the carefull *Husbandman*, especially in the laying of his land: as thus, if the soile be of good temper, fruitfull, drie, and of a well mixed mould, not being subject to any naturall Spring or casting forth of moisture, but rather through the native warmth, drying up all kinde of Fluxes or colde moistures, neither binding or strangling the Seede, nor yet holding it in such loosenesse, that it lose his force of encreasing, in this case it is best to lay your lands flat Observation.

and

and levell, without ridges or furrowes, as is done in manie parts of Cambridge-shire, some parts of Essex, and some parts of Hartford-shire: but if the Clay bee fruitfull and of good temper, yet either by the bordering of great hills, the over-flow of small Brookes, or some other casuall meanes, it is subject to much wet or drowning, in this case you shall lay your lands large and high, with high ridges and deepe furrowes, as generally you see in Lincolne-shire, Nottingham-shire, Huntington-shire, and most of the middle Shires in England. But if the land be barraine, colde, wet, subject to much binding, and doth bring forth great store of weedes; then you shall lay your land in little stiches, that is to say, not above three or foure furrowes at the most together, as is generally seene in Middlesex, Hartford-shire, Kent, and Surrey: for by that meanes neither shall the land binde and choake the Corne, nor shall the weede so overrunne it, but that the *Husbandman* may with good ease helpe to strengthen and cleanse it, the many furrowes both giving him many passages, whereby hee may correct those enormities, and also in such sort convaying away the water and other moistures, that there cannot bee made any land more fruitfull.

Of the Plough. Now to speake of the Plough which is best and most proper for this gray or white Clay, of which wee now speake, you shall understand that it differeth exceeding much from that of which we spake concerning the blacke Clay: I, and in such sort, that there is but smal alliance or affinity between them: as thus for example:

First, it is not so large and great as that for the blacke Clay: for the head thereof is not above twentie inches in length, and not above one inch and a halfe in thickneſſe, the maine beame thereof is not above five foote long, and the rest is broader by an inch and more then that for the blacke Clay: this Plough also hath but one hale, and that is onelie the left hand Hale: for the Plough-staffe, or Aker-staffe serveth ever in stead of the right hand Hale, so that the Rough-staves are fixed, the upper unto the shel-

ſhel-board, and the neather unto the Plough-reſt, as for your better underſtanding you may perceive by this figure.

The Plough with one Hale.

Now you ſhall underſtand that the eſpeciall care which is to be held in the making of this Plough, is, that it be wide and open in the hinder part, that it may turne and lay the furrowes one upon another: whereas if it ſhould bee any thing ſtraightned in the hinder part, conſidering that this Clay naturally is ſomewhat brittle of it ſelfe, and that the furrowes which you plough muſt of neceſſitie be very narrow and little, it were not poſſible ſo to lay them, but that they would fall downe back againe, and inforce the Ploughman to loſe his labour. Alſo you ſhall underſtand that whereas in the former Plough, which is for the blacke Clay, you may turne the ſhelboard, that is, when the one end is worne, you may eft-ſoones turne the other, and make it ſerve the like ſeaſon: in this Plough you muſt never turne the ſhelboard, becauſe the riſing wing of the Share will ſo defend it, that it will ever laſt as long as the Plough-head, without change or turning.

Now for the Irons belonging unto this Plough, which is the Share and Coulture, there is more difference in them then in the Plough: for to ſpeake firſt of the Share, whereas the former Share for the blacke Clay, was made broad, plaine, and with a large wing, this Share muſt bee made narrow, ſharpe, and ſmall, with no wing at all, having from the upper part thereof, cloſe by the ſhelboard, a certaine riſing wing, or broad piece of Iron, which comming up, and arming that part of the ſhelboard which turnes over the land, defends the wood from the ſharpe mould, which having the mixture of pible ſtone in it, would otherwiſe in leſſe then one dayes worke conſume the ſhelboard unto nothing, forcing the Plough-man to much trouble and double coſt. The faſhion of the Share is preſented in this Figure following.

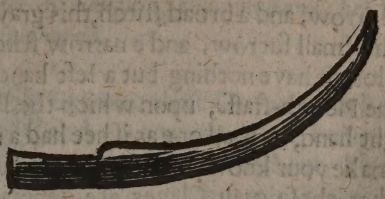
The Share.

This Share is onely made that it may take a ſmall furrow, and ſo by breaking the earth oftner then any other Share, cauſeth the land to yeeld a good and plentifull mould; and alſo keepes it from binding or choaking the ſeed when it is caſt into it.

Now for the Coulture, it differeth from the former Coulture both in breadth and thickneſſe, but eſpecially in compaſſe: for whereas the former Coulture for the blacke Clay, was made ſtraight, narrow, and thicke, this muſt be compaſſed like an halfe bent bow: it muſt be broader then three fingers, and thinner then halfe an inche, according to this Figure.

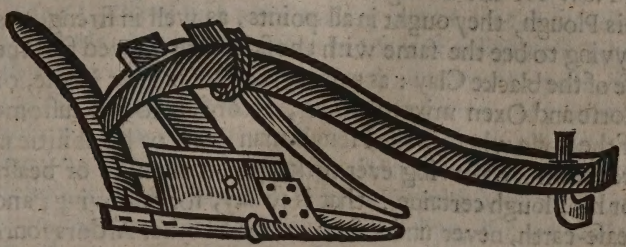
The

The Coulture.



Now when these Irons, the Shelboard, and other implements are fixed unto the Plough, you shall perceive that the Plough will carry the proportion of this Figure following.

The Plough for the gray Clay.



Having thus shewed you the substance, difference, and contraries of these two Ploughes, which belong to these two severall Clayes, the blacke and gray, you shall understand that there is no Clay-ground whatsoever, which is without other mixture, but one of these Ploughes will sufficiently serve to eare and order it: for all Clayes are of one of these tempers.

Now for the use and manner of handling or holding this Plough, it differeth nothing in particular observation from The use and handling.

the use and handling of the Plough formerly described, more then in the largenesse and smalnesse of the furrowes: for as before I said, whereas the blacke Clay must be raised with a great furrow, and a broad stitch, this gray Clay must be raised with a small furrow, and a narrow stitch: and although this Plough have nothing but a left hand Hale, yet considering the Plough-staffe, upon which the Plough-man resteth his right hand, it is all one as if hee had a right. And indeede, to make your knowledge the more perfect, you shall know that these gray Clayes are generally in their owne natures so wet, tough, and flymie, and doe so clogge, cleave, and choake up the Plough, that hee which holds it, shall have enough to do with his right hand onely to clense and keepe the Plough from choaking, insomuch that if there were another Hale, yet the Plough-man should have no leasure to hold it.

Of the draught or Teame.

Now for the Draught or Teame which should draw this Plough, they ought in all points, as well in strength as tryving to bee the same with those before shewed for the use of the blacke Clay: as namely, either Oxen or Horse, or Horse and Oxen mixt together, according to the custome of the soile wherein the Plough-man lives, or his abilitie in provision, observing ever to keepe his number of beasts for his Plough certaine, that is to say, for fallowing, and Pease-earth, never under sixe, and for all other Ardors foure at the least. And thus much for the ploughing of this gray or white Clay.

CHAP.

CHAP. X.

The manner of ploughing the red-Sand, his Earings, Plough, and Implements.

NExt unto theſe Clayes, which are ſoiles ſimple and uncompound, as being perfect in their owne natures, without the helpe of other mixtures, I place the Sand ſoiles, as being of like quality, not borrowing any thing but from their owne natures, nor breeding any defects more then their owne naturall imperfections: and of Sands, ſith the red Sand is the beſt and moſt fruitfull, therefore it is fit that it take priority of place, and be here firſt ſpoken of.

You ſhall then underſtand that this red Sand, albeit it is the beſt of Sands, yet it is the worſt of many ſoiles, as being of it ſelfe of ſuch a hot and dry nature, that it ſcorcheth the ſeede, and drieth up that nutriment and fatneſſe which ſhould occaſion encreaſe: whereby it comes to paſſe, that the Barley which growes upon this red Sand, is ever more yellow, leane and withered, then that which growes upon the Clayes or other mixt earths. This Sand eſpecially taketh delight in Rye, becauſe it is a Graine which loves warmth above all other; and yet notwithſtanding, if it be well ordered, manured and ploughed, it will bring forth good ſtore of Barley, albeit the Barley be not ſo good as Clay-Barley, either for the colour, or for the yeeld, whether it bee in Meale or in Malt.

Now for the manner of Earing or ploughing this red Sand, it differeth much from both the former ſoyles, inſomuch that for your better underſtanding, I muſt in many places alter my former methode, yet ſo little as may be, becauſe I am loath to alter or clog the memory of the Reader: wherefore to purſue my purpoſe. As ſoone as Chriſtmas is ended, that is to ſay, about the middeſt of January, you ſhall goe with your Plough into that field where the Harveſt be- Of fallowing.

fore, did grow your Rye, and there you shall in your ploughing cast your lands downe-ward, and open the ridges well, for this yeere it must be your fallow field: for as in the former soiles, we did divide the fields either into three parts, that is, one for Barley and Wheate, another for Pease, and the third fallow, which is the best division: or into foure parts, that is, one for Wheat and Rye, another for Barley, a third for Pease, and a fourth fallow, which is the worst division and most toilesome, so in this red Sand soile, wee must ever divide it into three parts, that is, one for Barley, another for Rye, and a third fallow. For this Sand-soile being hot, drie, and light, will neither bring forth good Beanes nor good Pease, and therefore that Ardor is in this place but onely to be spoke of by way of discourse in urgent necessity.

Wherefore (as before I said) about the middest of Januarie you shall begin to lay fallow that field, where formerly did growe your Rye, the manner of ploughing whereof differeth nothing from the manner of ploughing the Clayes before written of, onely that the discretion of the Plough-man must thus farre forth governe him, that in as much as this soile is lighter, dryer, and of a more loose temper, by so much the more hee must be carefull to make his furrowes lesse, and to lay them the closer together: and also in as much as this soile, through his naturall warmth and temperate moisture, is exceeding apt to bring forth much weede, especially Brakes, Ling, Brambles, and such like, therefore the Plough-man shall bee very carefull to plough all his furrowes very cleane, without baukes or other impediments by which may be ingendred any of these inconveniences.

Of Spring-foyling.

After you have thus broke up and fallowed your fallow or tilth-field, the limitation of which time is from the middest of Januarie untill the middest of Februarie, you shall then at the middest of Februarie, when the Clay-men begin to sowe their Beanes and Pease, goe with your Plough into your other fallow-field, which all the yeere before hath laine

fallow

fallow, and already received at your hands at leaſt foure ſeverall Ardors; as Fallowing, Summer-ſtirring, Foyling, and Winter-ridging; and there you ſhall plough all that field over the fift time, which is called the Spring-foyling: and in this Ardor you ſhall plough all your lands upward, in ſuch ſort as when you Winter-ridge it, by which meanes you ſhall plough up all thoſe weedes which have ſprung forth in the Winter ſeaſon. For you muſt underſtand that in theſe light, hot, ſandy ſoiles, there is a continuall ſpring (though not of good fruits) yet of weeds, quicks, and other inconveniences: for it is a rule amongſt *Husbandmen*, that warme ſoiles are never idle, that is, they are ever bringing forth ſomething.

Now the limitation for this Ardor is from the middeſt of Februarie untill the middeſt of March, at which time you ſhall, by comparing former experience with your preſent judgement, take into your conſideration the ſtate, goodneſſe, and powerfulneſſe of your land, I meane eſpecially of this fallow-field, which hath laine fallow the yeere before, and hath now received five Ardors: and if you finde any part of it, either for want of good ordoring in former times, or for want of Manure in the preſent yeere, to bee growne ſo leane and out of heart, that you feare it hath not ſtrength enough to beare Barley, you ſhall then at this time, being the middeſt of March, ſowe ſuch land with Rye, which of *Husbandmen* is called the ſowing of March-Rye: and this Rye is to bee ſowne and harrowed in ſuch ſort as you did ſowe it upon the Clay ſoiles, that is to ſay, above furrow, and not under furrow, except the land be very full of quickes, that is, of Brakes, Ling, Brambles, Dockes, or ſuch like, and then you ſhall firſt with a paire of Iron Harrowes, that is, with Harrowes that have Iron teeth, firſt of all harrow the land over, and by that meanes teare up by the rootes all thoſe quickes, and ſo bring them from the land: which done, you ſhall ſowe the land over with Rye, and then plough it downeward which is under furrow: and as ſoone as it is ploughed, you ſhal then with a paire of Iron Harrowes.

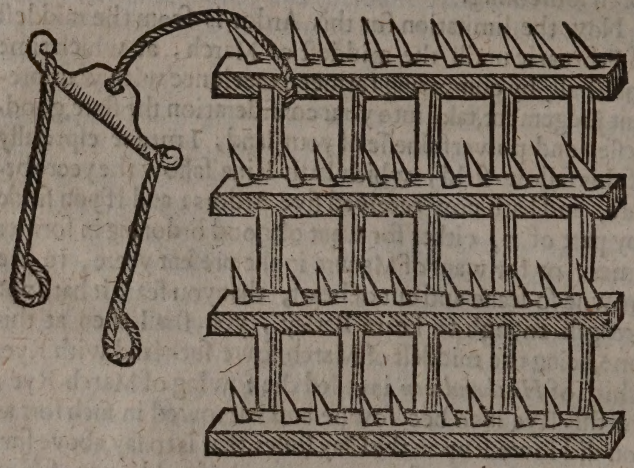
Of Sowing March-Rye.

Harrowes harrow it all over ſo exceedingly, that the mould may bee made as fine, and the land lie as ſmooth as is poſſible.

Of the Harrow.

Now becauſe I have in the former Chapters ſpoke of Harrowes and harrowing, yet have not delivered unto you the ſhape and proportion thereof, and becauſe both the woodden Harrow and the Iron Harrow have all one ſhape, and differ in nothing but the teeth onely, I thinke it not amiſſe before I proceede any further to ſhew you in this Figure the true ſhape of a right Harrow.

The Harrow.



The parts of this Harrow conſiſteth of buls, ſtaves, and teeth: of buls, which are broad thicke pieces, either of well ſeaſoned Willow, or Sallow, being at leaſt three inches every way ſquare, into which are faſtned the teeth: of ſtaves, which are round pieces of well ſeaſoned Aſh, being about two inches and a halfe about, which going thorow the buls, holde the buls firmely in equall diſtance one from the other: and of teeth, which are either long pinnes

of

of wood or Iron, being at least five inches in length, which are made fast, and set slope-wise through the buls.

Now you shall understand that Harrowes are of two kindes, that is, single and double: the single Harrow is called of *Husbandmen* the Horse-Harrow, and is not above foure foote square: the double Harrow is called the Oxe-harrow, and it must be at least seaven foote square, and the teeth must ever be of Iron. Now whereas I spake of the Horse-harrow and the Oxe-harrow, it is to be understood that the single Harrow doth belong to the Horse, because Horses drawing single, doe draw each a severall Harrow by himselfe, albeit in the common use of harrowing, we couple two horses ever together, & so make them draw two single Harrowes: but Oxen not being in good Husbandrie to bee separated, because ever two must draw in one yoake, therefore was the double Harrow devised, containing in substance and worke as much as two single Harrowes. The diversitie of Harrowes.

Now for the use of Harrowes. The woodden Harrow which is the Harrow with woodden teeth, is ever to bee used upon clay grounds and light grounds, which through drinesse doth growe loose, and falls to mould of it owne nature, as most commonly Sand grounds doe also: and the Iron Harrow which is the Harrow with Iron teeth, is ever to be used upon binding grounds, such as through drinesse growe so hard that they will not be sundered, and through wet turne soone to mire and loose durt. Now whereas there be mingled earths, which neither willingly yeeld to mould, nor yet bindes so sore, but small industry breaks it, of which earth I shall speake hereafter, to such grounds the best Husbands use a mixture, that is to say, one woodden Harrow, and one Iron Harrow, that the woodden Harrow turning over, and loosening the looseſt mould, the Iron Harrow comming after, may breake the stiffer clots, and so consequently turne all the earth to a fine mould. And thus much for Harrowes. The use of Harrowes.

Now to returne to my former purpose touching the tillage of this red Sand: if (as before I said) you finde any Of the sowing of Pulse,

part of your fallow-field too weake to beare Barley, then is your March-Rye, a graine which will take upon a harder earth: but if the ground be too weake either for Barley or Rye, (for both those Seedes desire some fatnesse of ground) then shall you spare ploughing it at all untill this time of the yeere, which is mid-March, and then you shall plough it, and sowe it with either the smallest Pease you can get, or else with our true English Fitches, which by forraine Authors are called *Lentles*, that is, white Fitches, or *Lupines*, which are red Fitches: for all these three sorts of Pulse will growe upon very barraine soiles, and in their growth doe Manure and make rich the ground: yet your Pease desire some heart of ground, your *Lentles*, or white Fitches, lesse, and your *Lupines*, or red Fitches, the least of all, as being apt to growe upon the barraineſt soile: so likewise your Pease doe Manure barraine ground well, your *Lentles* better, and your *Lupines* the best of all.

Of Peaſe, Lentles, and Lupines.

Now for the nature and use of these graines, the Pease as all *Husbandmen* know, are both good for the use of man in his bread, as are used in Leicester-shire, Lincolne-shire, Nottingham-shire, and many other Countries: and also for Horses in their Provender, as is used generally over all England: for *Lentles*, or white Fitches, or the *Lupines* which are red Fitches, they are both indifferent good in bread for man, especially if the meale bee well scalded before it bee knodden (for otherwise the savour is exceeding ranke) or else they are a very good foode being sodden in the manner of Leape-Pease, especially at Sea, in long journeyes where fresh meate is most exceeding scarce: so that rather then your land should lye idle, and bring forth no profit, I conclude it best to sowe these Pulses, which both bring forth commodity, and also out of their owne natures doe Manure and inrich your ground, making it more apt and fit to receive much better Seede.

For the manner of sowing these three sorts of Pulse, you shall sowe them ever under furrow, in such sort as is described for the sowing of Pease and Beanes upon the white

white or gray Clay, which is of indifferent drineſſe, and apt to breake.

Now the limitation for this Ardor or ſeede time, is from the middeſt of March, till the middeſt of Aprill: then from the middeſt of April, till the middeſt of May, you ſhall make your eſpeciall worke, to be onely the leading forth of your Manure to that field which you did fallow, or lay tilth that preſent yeere immediately after Chriſtmas, and of which I firſt ſpake in this Chapter. And herein is to bee underſtood, that the beſt and principalleſt Manure for this red-ſand, is the oldeſt Manure of beaſts which can bee gotten, which you ſhall know by the exceeding blackneſſe and rottenneſſe thereof, being in the cutting both ſoft and ſmooth, all of one ſubſtance, as if it were well compact morter, without any ſhew of ſtrawe or other ſtuffe which is unrotted, for this dung is of all the fatteſt and cooleſt, and doth beſt agree with the nature of this hot ſand. Next to the dung of beaſts, is the dung of Horſes if it bee olde alſo, otherwiſe it is ſomewhat of the hotteſt, the rubbiſh of old houſes, or the ſweepings of floores, or the ſcowrings of old Fiſh-ponds, or other ſtanding waters where beaſts and horſes are uſed to drinke, or be waſht, or whereunto the water and moiſture of dunghils have recourſe, are all good Manures for this red-ſand: as for the Manure of Sheepe upon this red-ſand, it is the beſt of all in ſuch places as you meane to ſowe Rye, but not fully ſo good where you doe intend to ſowe your Barley: if it be a cold moiſt red ſand (which is ſeldome found but in ſome particular low Countries) then it doth not amiſſe to Manure it moſt with Sheepe, or elſe with Chaulke, Lyme, or Aſhes, of which you can get the greateſt plentie: if this ſoile bee ſubject to much weede and quickes, as generally it is, then after you have torne up the weedes and quickes with Harrowes, you ſhall with rakes rake them together, and laying them in heapes upon the land, you ſhall burne them, and then ſpreading the aſhes, they will be a very good Manure, and in ſhort ſpace deſtroy the weedes alſo; Of Manuring.

likewise if your land bee much overgrowne with weedes, if when you sheare your Rie you leave a good long stubble, and then mowing the stubble, burne it upon the land, it is both a good Manure, and also a good meanes to destroy the weedes.

Of sowing Barley. After your Manure is led forth, and either spread upon the lands, or set in great heapes, so as the land may be covered over with Manure (for it is to bee observed that this soile must bee throughly Manured) then about the middest of May, which is the time when this work should be finished, you shall repaire with your Plough into the other fallow field, which was prepared the yeere before for this yeeres Barley, and there you shall sowe it all over with Barley above furrow, that is to say, you shall first plough it, then sowe it, and after harrow it, making the mould as fine and smooth as may be, which is done with easie labour, because this sand of it owne nature is as fine as ashes.

Now the limitation for this seede time, is from the middest of May, till the middest of June, wherein if any man demaund why it should not bee sowne in March and Aprill, according as it is sowne in the former soiles, I answere, that first this red sand cannot bee prepared, or receive his full season in weather, and earings, before this time of the yeere, and next that these red sands, by how much they are hotter and drier then the other Clayes, by so much they may well stay the longer before they receive their seede, because that so much the sooner the seede doth sprout in them, and also the sooner ripen being kept warmer at the roote then in any cold soile whatsoever. As soone as the middest of June approacheth, you shall then begin to Summer-stirre your fallow field, and to turne your Manure into your land, in such sort as you did upon your Clay soiles, for this Ardor of Summer-stirring altereth in no soile, and this must be done from the middest of June, till the middest of July, for as touching sleighting, clotting, or smoothing of this Barley field, it is seldome in use, because the fineness of the sand will lay the land smooth enough without

Of Summer-stirring.

Of sleighting.

sleighting:

sleighting: yet if you finde that any particular land lieth more rough then the reſt, it ſhall not be amiſſe, if with your back Harrowes you ſmooth it a little within a day or two after it is ſowne.

From the middeſt of July untill the middeſt of Auguſt, you ſhall foile and throw downe your fallow field againe, if your lands lie well and in good order, but if any of your lands doe lie in the danger of water, or by uſe of ploughing are growne too flat, both which are hinderances to the growth of Corne, then when you foile your lands you ſhall plough them upward, and ſo by that meanes raiſe the ridges one furrow higher. Of Foiling.

After you have foiled your land, which muſt be about the middeſt of Auguſt, then will your Barley be ready to mowe, for theſe hot ſoiles have ever an early Harveſt, which as ſoone as it is mowne and carried into the Barne, forth-with you ſhall with all expedition carrie forth ſuch Manure as you may conveniently ſpare, and lay it upon that land from whence you received your Barley, which is moſt barraine: and if you want Cart Manure, you ſhall then lay your fould of Sheepe thereupon, and as ſoone as it is Manured, you ſhall immediatly plough both it and the reſt, which Ardor ſhould bee finiſhed by the middeſt of September, and ſo ſuffered to reſt untill the beginning of October, at which time you ſhall begin to ſowe all that field over with Rye in ſuch ſort as hath beene ſpoken of in former places. Of ſowing Rye.

Now in as much as the ignorant *Husbandman* may verie eaſily imagine that I reckon up his labours too thicke, and therein leave him no leaſure for his neceſſarie buſineſſes, eſpecially becauſe I appoint him to foile his land from the middeſt of July, till the middeſt of Auguſt, which is both a buſie time for his Hay-Harveſt, and alſo for his Rye ſhearing. Objection.

To this I make anſwere, that I write not according to that which poore men are able (for it were infinite to looke into eſtates) but according as every good Husband ought, preſuppoſing that hee which will live by the Plough, ought Anſwere.

to purſue all things belonging unto the Plough, and then he ſhall finde that there is no day in the yeere, but the Saboth, but it is neceſſary that the Plough be going: yet to reconcile the poore and the rich together, they ſhall underſtand, that when I ſpeake of ploughing in the time of Harveſt, I doe not meane that they ſhould neglect any part of that principall worke, which is the true recompence of their labour: but becauſe whilſt the dewe is upon the ground, or when there is either raine or mizling, there is then no time for Harveſt worke, then my meaning is, that the carefull *Husbandman* ſhall take thoſe advantages, and riſing earlier in the mornings, be ſure to be at his Plough two houres before the dewe bee from the ground, knowing that the getting but of one houre in the day compaſſeth a great worke in a moneth, neither ſhall hee neede to feare the over-toiling of his cattell, ſith at that time of the yeere graſſe being at greateſt plenty, ſtrongeſt and fulleſt of heart, Corne ſcattered almoſt in every corner, and the mouth of the beaſt not being muzeld in his labour, there is no queſtion but hee will endure, and worke more then at any other ſeaſon.

Of Winter-ridging.

In the beginning of November, you ſhall begin to Winter-ridge your fallow, or tilth field, which in all points ſhall bee done according to the forme deſcribed in the former ſoiles: for that Ardor of all other never altereth, becauſe it is as it were a defence againſt the latter Spring, which elſe would fill the lands full of weedes, and alſo againſt the rigour of Winter, and therefore it doth lay up the furrow cloſe together, which taking the ſeaſon of the froſt, winde, and weather, makes the mould ripe, mellow, and light: and the limitation for this Ardor, is from the beginning of November, untill the middeſt of December.

Of the Plough.

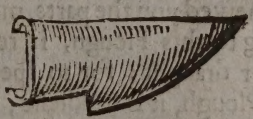
Now as touching the Plough which is beſt and moſt proper for this red-ſand, it differeth nothing in ſhape and compoſure of members from that Plough which is deſcribed for the blacke Clay, having neceſſarily two Hales, becauſe the ground being looſe and light, the Plough will with great difficultie

difficultie hold land, but with the least disorder bee ever ready to runne into the furrow, so that a right hand Hale is most necessary for the holding of the Plough even, onely the difference of the two Ploughes consisteth in this, that the Plough for this red-sand, must bee much lesse then the Plough for the blacke Clay, holding in the sizes of the timber the due proportion of the Plough for the white or gray Clay, or if it be somewhat lesse, it is not amisse, as the head being eighteene inches, the maine beame not above foure foote, and betweene the hinder part of the rest, and the outmost part of the Plough-head in the hinder end not above eight inches.

Now for the Plough-Irons which doe belong unto this Plough, the Coulture is to be made circular, in such proportion as the Coulture for the gray, or white Clay, and in the placing, or tempering upon the Plough, it is to be set an inch at least lower then the Share, that it may both make way before the Share, and also cut deeper into the land, to make the furrow have more easie turning. Of the Coulture.

Now for the Share, it differeth in shape from both the former Shares, for it is neither so large nor out-winged, as that for the gray Clay, for this Share is onely made broad to the Plough ward, and small to the point of the Share, with onely a little peake and no wing according to this figure. Of the Share.

The Share.

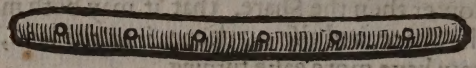


These Plough-Irons, both Coulture and Share, must bee well steeled and hardned at the points, because these sandie soiles being full of moisture and greete, will in short space weare and consume the Irons, to the great hinderance and

and coſt of the *Husbandman*, if it be not prevented by ſteele and hardning, which notwithſtanding wil waſt alſo in theſe ſoiles, ſo that you muſt at leaſt twiſe in every Ardor have your Irons to the Smith, and cauſe him to repaire them both with Iron and ſteele. Beſides theſe Irons, of Coulture and Share, you muſt alſo have a long piece of Iron, which muſt be juſt of the length of the Plough head, and as broad as the Plough head is thick, and in thickneſſe a quarter of an inch: and this piece of Iron muſt be nailed upon the out-ſide of the Plough head, next unto the land, onely to ſave the Plough head from wearing, for when the Plough is worne, it can then no longer hold the land, and this piece of Iron is called of *Husbandmen* the Plough-ſlip, and preſenteth this figure.

Of the Plough-ſlip.

The Plough-ſlip.



Over and beſides this Plough-ſlip, there are certaine other pieces of Iron, which are made in the faſhion of broad thinne Plates, and they be called Plough Clouts, and are to be nailed upon the ſhelboard, to defend it from the earth or furrow which it turneth over, which in very ſhort ſpace would weare the wood, and put the *Husbandman* to double charge.

Of Plough-clouts.

Thus having ſhewed you the parts, members, and implements, belonging to this Plough, it reſts that I proceede unto the teame or draught: for to ſpeake of the uſe and handling of this Plough, it is needleſſe, becauſe it is all one with thoſe Ploughes, of which I have ſpoken in the former Chapters, and hee which can hold and handle a Plough in ſtiffe Clayes muſt needes (except hee be exceeding ſimple) hold a Plough in theſe light ſands, in as much as the worke is much more eaſie, and the Plough a great deale leſſe chargeable.

The holding of the Plough.

Now

Now for the Draught or Teame, they ought to bee as in the former Soiles, Oxen or Horſes, yet the number not ſo great: for foure Beaſts are ſufficient to plow any Ardor upon this ſoile, nay, three Horſes if they bee of reaſonable ſtrength, will doe as much as ſixe upon either of the Clay-ſoiles: as for their attire or Harneſſing, the Bearegeares, before deſcribed, are the beſt and moſt proper. And thus much concerning this red Sand, wherein you are to take this briefe obſervation with you, that the Graines which are beſt to be ſowne upon it, are onely Rye, Barley, ſmall Peaſe, *Lentles* and *Lupines*, otherwiſe called Fitches, and the graines to which it is adverſe, are Wheat, Beanes and Maſlin. Of the Draught.

CHAP. XI.

The manner of plowing the white Sand, his Earings, Plough and Implements.

NExt unto this red Sand, is the white Sand, which is much more barraine then the red Sand, yet by the induſtry of the Husbandman in plowing, and by the coſt of Manure it is made to beare corne in reaſonable plenty. Now of white Sands there be two kindes, the one a white Sand mixt with a kinde of Marle, as that in *Norfolke*, *Suffolke*, and other ſuch like places butting upon the Sea-coaſt: the other, a white Sand with Pible, as in ſome parts of *Surrey*, about *Ancaſter* in *Lincolneſhire*, and about *Salisbury* in *Wiltſhire*.

Now for this white Sand with Pible, it is the barraineſt, and leaſt fruitfull in bringing forth, becauſe it hath nothing but a hot duſty ſubſtance in it. For the manner of Earing thereof, it agreeth in all points with the redde Sand, the Ardors being all one, the Tempers, Manurings, and all other appurtenances: the Seede alſo which it delights in, is all one with the redde Sand, as namely, Rye, Barley, Peaſe and Fitches. Wherefore who ſo ſhall dwell upon ſuch a ſoyle, Of the white Sand with Pible.

I must referre him to the former Chapter of the red Sand, and therein he shall finde sufficient instruction how to behave himselfe upon this earth: remembring that in as much as it is more barraine then the red Sand, by so much it craveth more care and cost, both in plowing and manuring thereof, which two labours onely make perfect the ill ground.

Of the white Sand with Marle.

Now for the white Sand which hath as it were a certaine mixture, or nature of Marle in it, you shall understand, that albeit unto the eye it be more dry and dusty then the red Sand, yet it is fully as rich as the red Sand: for albe it doth not beare Barley in as great plenty as the red Sand, yet it beareth Wheate abundantly, which the red Sand seldome or very hardly bringeth forth.

Of Fallowing.

Wherefore to proceede to the Earings or tillage of this white Marly sand, you shall understand, that about the middest of *Ianuary* is fit time to beginne to fallow your field which shall be tilth and rest for this yeare: wherein by the way, before I proceede further, you shall take this observation with you, that whereas in the former soiles I divided the fields into three and foure parts, this soile cannot conveniently, if it be well husbanded, be divided into any more parts then two, that is to say, a fallow field, and a Wheate-field: in which Wheate-field, if you have any land richer then other, you may bestow Barley upon it, upon the second you may bestow Wheat, upon the third sort of ground Rye, and upon the barraineſt, Peaſe or Fitches: and yet all these must be sowne within one field, because in this white Sand, Wheate and Rye will not grow after Barley or Peaſe, nor Barley and Peaſe after Wheare or Rye. Your fields being then divided into two parts, that is, one for corne, the other for rest, you shall, as before I said, about the middest of *Ianuary* beginne to fallow your Tithe-field, which in all observations you shall doe according as is mentioned for the red Sand.

Of sowing of Peaſe.

About the middest of *March*, if you have any barraine or wasted ground within your fallow field, or if you have

any

any occasion to breake up any new ground, which hath not beene formerly broken up, in either of these cases you shall sow Pease or Fitches thereupon, and those Pease or Fitches you shall sow under furrow as hath beene before described.

About the middest of *April* you shall plow your fallow-field over againe, in such manner as you plowed when you fallowed it first: and this is called Spring-fallowing, and is of great benefit because at that time the weedes and quickes beginning to spring, nay, to flourish, by reason that the heate of the clime puts them forth sooner then in other soiles, if they should not be plowed up before they take too strong roote, they would not onely over-runne, but also eate out the heart of the Land. Of Spring-fallowing.

About the middest of *May* you shall beginne to sow your Barley upon the richest part of your old fallow field, which at the *Michaelmas* before, when you did sow your Wheate, and Rye, and Maslin, you did reserve for that purpose: and this Barley you shall sow in such sort as is mentioned in the former Chapter of the red Sand, in so much that this Ardor being finished, which is the last part of your Seede-time, your whole field shall be furnished either with Wheate, if it hold a temperate fatnesse, or with Wheate and Barley, if it bee rich and richer, or with Wheate, Barley and Pulse, if it be rich, poore or extreame barraine: and the manner of sowing all these severall seeds is described in the Chapters going before. Of sowing Barley.

About the middest of *Iune* you shall beginne to Summer-stirre your fallow-field, in such sort as was spoken of in the former Chapters concerning the other soiles: for in this Ardor there is no alteration of method, but onely in government of the Plough, considering the heavinesse and lightnesse of the earth. During this Ardor you shall busily apply your labour in leading forth your Manure, for it may at great ease be done both at one season, neither the Plough hindering the Cart, nor the Cart staying the Plough: for this soile being more light and easie in worke Of Summer-stirring.

then any other soile whatsoever, doth ever preserve so many Cattel for other imployment that both works may go forward together, as shall be shewed when we come to speake of the Plough, and the Teame which drawes it.

Of Manuring. Now as touching the Manures most fit for this soyle, they be all those of which we have formerly written, ashes onely excepted, which being of an hot nature, doe scald the Seede, and detaine it from all fruitfulnesse, being mixt with this hot soile, so is likewise Lyme, and the burning of stubble: other Manures are both good and occasion much fertility, as being of a binding and coole nature, and holding together that loosenesse which in his too much separation taketh all nutriment from the earth.

Of Weeding. After you have ledde forth your Manure, and Summerstird your Land, you shall then about the beginning of *July* looke into your Corne-field, and if you perceive any Thistles, or any other superfluous weedes to annoy your Corne, you shall then (as is before said) either cut, or pluck them up by the rootes.

Of Foyling. About the middest of *August* you shall beginne to soile or cast downe your fallow field againe, and in that Ardor you shall be very carefull to Plow cleane and leave no weedes uncut up: for in these hot soiles if any weeds be left with the least roote, so that they may knit and bring forth seede, the annoyance thereof will remaine for at least foure yeeres after, which is a double fallowing. And to the end that you may cut up all such weeds cleane, although both your Share and Coulture misse them, you shall have the rest of your Plough in the under part which strokes alongst the earth filled all full of dragges of Iron, that is, of olde crooked nailes, or great tenter-hooks, such as upon the putting downe of your right hand when you come neere a weed shall catch hold thereof and teare it up by the rootes, as at this day is used by many particular Husbands in this Kingdome, whose cares, skils, and industries are not inferiour to the best whatsoever.

About the middest of *September* you shall begine to

sow your Wheate and Rye upon your fallow-field, which Graine upon this soile is to be reckoned the most principall: and you shall sow it in the same manner that is described in the former Chapters, wherein your especialleſt care is the choise of your seede: for in this soile your whole-straw Wheate, nor your great Pollard taketh any delight, neither your Organe, for all those three must have a firme and a strong mould: but your Chilter-wheate, your Flaxen-wheate, your white-pollard, and your Red-wheate, which are the Wheates which yield the pureſt and fineſt meale, (although they grow not in so great abundance) are the seedes which are most proper and naturall for this soile. As for Rye or Maslin, according to the goodneſſe of the ground, so you shall beſtow your seede: for it is a generall rule, that whereſoever your Wheate growes, there will ever Rye grow, but Rye will many times grow where Wheate will not prosper; and therefore for the sowing of your Rye, it must be according to the temper of the earth, and the neceſſity of your houshold: for Wheate being a richer graine then Rye, if you bee assured that your ground will beare Wheate well, it is small Husbandrie to sow more Rye or Maslin then for your house: but if it be too hot for Wheate, and kindly for Rye, then it is better to have good Rye, then ill Wheate. Now for the sowing of your Rye or Maslin in this soile, it differeth nothing from the former soiles, either in plowing or any other obſervation, that is to say, it must be plowed above furrow: for Rye being the most tender graine, it can neither abide the weight of earth, nor yet moisture; the one, as it were, burying, and the other drowning the vigour and strength of the seede.

Of Sowing Wheate and Rye.

The choice of Seede.

About the beginning of *November*, you shall Winter-ridge your fallow-field, I meane that part which you doe preſerve for Barley (for the other part is furniſhed with seede) and this Winter-ridging differeth nothing from the Winter-ridging of other soiles, onely you shall a little more preciſely obſerve to set up your Lands more straight and high then in other soiles, both to defend them from wet,

Of Winter-ridging.

which this soile is much subject unto, because commonly some great river is neere it, and also for the preserving of the strength and goodnesse of the Manure within the land which by lying open and uncloſed would soone be washt forth and consumed.

Of the cleansing of Lands, or drawing of water-furrows.

Now sith I have here occasion to speake something of the draining of lands, and the keeping of them from the annoyance of superfluous wet, whether it bee by inundation or otherwise, you shall understand, that it is the especiall office and duty of every good Husbandman, not onely in this soile, but in all other whatsoever, to have a principall respect to the keeping of his land dry, and to that end he shall diligently (as soone as he hath Winter-rigged his land) take a carefull view how his Lands lye, which way the descent goes, from whence annoyance of water may possibly come, and so consequently from those observations, with a Spade or strong Plough, of extraordinary greatnesse, draw certaine deepe furrowes from descent unto descent, by which meanes all the water may be conveyed from his lands, either into some common Sewer, Lake, Brooke, or other maine river: and to this end, it is both a rule in the common Lawes of our Land, and a laudable custome in the Common-wealth of every Towne, that for as much as many Townes have their Lands lye in common, that is to say, mixed neighbor with neighbor, few or none having above two or three lands at the most lying together in one place, therefore every man shall joyne, and make their water-furrowes one from another, untill such time as the water bee conveyed into some common issue, as well he whose lands lye without all danger, as hee that is troubled with the greatest annoyance, and herein every one shall beare his particular charge: which is an Act of great vertue and goodnesse.

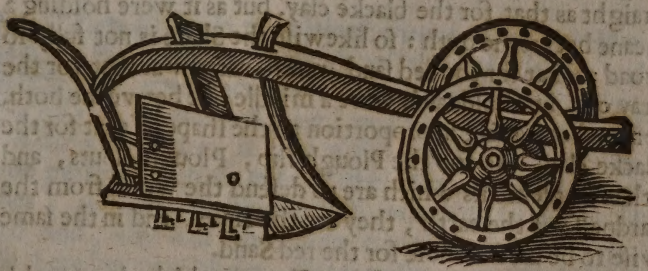
Of the plough.

Now for the Plough which is to plow this white sand it doth differ nothing in size, proportion, and use of handling from the Plough described for the red Sand, onely it hath one addition more, that is to say, at the further end of the maine Beame of the Plough, where you fixe your

Plough-

Plough-foot, there you shall place a little paire of round wheeles, which bearing the Beame upon a loose moving Axletree, being just the length of two furrows and no more, doth so certainly guide the Plough in his true furrow that it can neither lose the land by swerving (as in these light soiles every Plough is apt to doe) nor take two much land, either by the greedinesse of the Plough, or sharpnesse of the Irons, neither can it drowne through the easie lightnesse of the earth, nor run too shallow through the fussinesse of the mould, but the wheeles being made of a true proportion, which should not be above twelve inches from the centre, the Plough with a reasonable hand of government shall runne in a direct and even furrow: the proportion of which Plough is contained in this Figure.

The Plough with Wheeles.



This Plough of all others I hold to bee most ancient, and as being the modell of the first invention, and at this day is preserved both In *France*, *Germany*, and *Italy*, and no other proportion of Ploughes knowne, both as we perceive by our experience in seeing them plow, and also by reading of their writings: for neither in *Virgil*, *Columella* *Xenophon*, nor any old Writer; nor in *Heresbachius*, *Stevens*, nor

Libault,

Libault, being later Writers, finde wee any other Plough bequeathed unto our memories. Yet it is moſt certaine, that in many of our Engli h ſoiles, this Plough is of little profit, as we finde by daily experience both in our clayes, and many of our mixt earths: for in truth this Plough is but onely for light, ſandy, or gravelly ſoiles, as for the moſt part theſe forraine Countries are, eſpecially about the ſea-coaſt, or the borders of great Cities, from whence theſe Writers moſt generally tooke the preſidents for their writings.

Now for the parts of this Plough, it conſiſteth of the ſame members which the former Ploughs doe, onely that in ſtead of the Plough-foote, it hath a paire of wheeles. It hath alſo but one Hale, in ſuch ſort as the Plough for the gray or white clay. The beame alſo of this Plough is much more ſtraight then the former, by which meanes the Skeath is not full ſo long. The Irons belonging unto this plough are of the faſhion of the former Irons, onely they be ſomewhat leſſe, that is to ſay, the Coulture is not ſo long, neither ſo full bent as that for the red Sand, nor ſo ſtraight as that for the blacke clay, but as it were holding a meane betweene both: ſo likewiſe the Share is not fully ſo broad as that for the red ſand, nor ſo narrow as that for the gray clay, but holds as it were a middle ſize betweene both, ſomewhat leaning in proportion to the ſhape of that for the blacke clay. As for the Plough-ſlip, Plough-clouts, and other implements which are to defend the wood from the hardneſſe of the earth, they are the ſame, and in the ſame wiſe to be uſed as thoſe for the red Sand.

Of the plough-Irons.

Now for the Draught or Teame which drawes this Plough, they are as in all other Draughts, Oxen or Horſes, but for the number thereof they differ much from thoſe which are formerly written of: for you ſhall underſtand that in this white ſandy ſoile, which is of all ſoiles the lighteſt, either two good Horſes, or two good Oxen are a number ſufficient to plow any Ardor upon this ſoile whatſoever, as by daily experience we may ſee in thoſe countries whoſe ſoile

Of the Draught.

soile consists of this white light Sand, of which wee have now written: neither shall the Plow-man upon this soile neede any person to drive or order his Plough more then himselfe: for the soile being so light and easie to cut, the Plough so nimble, and the Cattell so few and so neere him, having ever his right hand at libertie (because his Plough hath but onely a left hand Hale) hee hath liberty ever to carry a goade or whip in his right hand, to quicken and set forward his Cattell, and also a line which being fastned to the heads of the Beasts, he may with it ever when he comes to the lands end, stop them and turne them upon which hand he pleases. And thus much for the tillage and ordering of this white Sand.

CHAP. XII.

The manner of plowing the mixt and compounded earthes, and first of the Gravell with Pible stones, or the Gravell with Flint, their Earings, Plough, and Implements.

HAving in the plainest manner I can, written sufficiently already of the foure simple and uncompounded soiles, to wit, two Clayes, blacke and gray, and two Sands, red and white, it now rests that I also give you some perfect touch or taste of the mixt or compounded soiles, as namely, the gravell which is a kinde of hard sand, clay and stone mixt together: and of Gravels there bee two kindes, that is to say, one that is mixt with little small Pible stones, as in many parts of *Middlesex*, *Kent*, and *Surrey*: and the Gravell mixt with broad Flints, as in many parts of *Hartford-shire*, *Essex*, and sundry such places. These Gravels are both, in generall, subject to much barrainnesse, especially if they be accompanied with any extraordinarie moysture, yet with the good labour of plowing, and with the cost of much Manure, they are

brought to reasonable fruitfulnesse, where it comes to passe that the Plow-man which is master of such a soile, if either he live not neere some Citie or Market-towne, where great store of Manure, by the concourse of people, is daily bred, and so consequently is very cheape, or else have not in his owne store and breede, meanes to raise good store of Manure, hee shall seldome thrive and prosper thereupon. Now although in these gravell soiles there is a diversity of mixture, as the one mingled with small Pibles, which indeede is the worst mixture, the other with broad Flints, which is the better signe of fruitfulnesse: yet in their order of tillage or Earings, in their weeding and cleansing, and in all other Ardors and observations, they differ nothing at all, the beginning and ending of each severall worke being all one.

Now for the manner of worke belonging unto these two soiles, it altereth in no respect nor observation either in Plough, plowing, manuring, weeding, or any other thing whatsoever, from that of the white sand, the same times of the yeare, the same Seedes, and the same Earings being ever to be observed: wherfore it shall be needlesse to write so amply of these soiles as of the other, because being all one with the white Sand, without alteration, it were but to write one thing twice, and therefore I referre the Reader to the former Chapter, and also the Husbandman that shall live upon either of these soiles, onely with these few caveats: First, that for the laying his lands, hee shall lay them in little small stitches, that is, not having above foure furrowes laid together, as it were for one land, in such sort as you see in *Hartford-shire*, *Essex*, *Middlesex*, *Kent*, and *Surrey*: for this soile being for the most part subject to much moisture and hardnesse, if it should bee laid in great lands, according to the manner of the North-parts, it would over-burden, choak and confound the seed which is thrown into it. Secondly, you shall not goe about to gather off the stones which seeme as it were to cover the lands, both because the labour is infinite and impossible, and also because those

those stones are of good use, and as it were a certaine Manuring and helpe unto the ground: for the nature of this Gravell being cold and moist, these stones doe in the winter time, defend and keepe the sharpnesse of the Frosts and bleake windes from killing the heart or roote of the seedes, and also in the Summer it defends the scorching heate of the Sunne from parching and drying up the Seede, which in this gravelly soile doth not lye so well covered as in other soiles, especially if this kind of earth bee invironed with any great hils (as most commonly it is) the reflection whereof makes the heate much more violent. And lastly, to observe that there is no Manure better or more kindly for this kinde of earth then Chaulke, white Marle, or Lyme: for all other matters whatsoever the former Chapter of the white Sand, will give you sufficient instructions.

CHAP. XIII.

The manner of plowing the blacke Clay mixt with red Sand, and the white Clay mixt with white Sand, their Earings, Plough, and Implements.

NExt to these gravelly soiles, there bee also two other compounded earths, as namely, the blacke Clay mixt with red Sand, and the white Clay mixt with white Sand, which albe they differ in composition of mould, yet they hold one nature in their Tillage and Husbandrie: wherefore first to speake of the blacke Clay mixt with red Sand, which (as before I said) is called of Husbandmen an hassell earth, you shall understand that it is very rich and good soile, very fruitfull both for Corne and Grasse: for Corne, being apt to beare any seede whatsoever; and for Grasse, as naturally putting it forth very early in the yeare, by which your Cattell shall get reliefe sooner then in other soiles of colder nature: for both the blacke and white Clayes doe seldome flourish with

any ſtore of Graſſe before *Iune*, which is the time of woodſeare, and this ſoile will boaſt of ſome plenty about the beginning of *Aprill* at the furtheſt: but for Graſſe, we ſhall ſpeake in his proper place.

Of fallowing. Now for his tillage it is thus: you ſhall about the middeſt of *Ianuary*, beginne to fallow that field which you intend that yeare ſhall lye at reſt or tilth, and you ſhall fallow it in ſuch ſort as is ſpecified in the Chapter of the blacke clay: onely you ſhall take ſmall furrowes and plow the land cleane, being ſure to open and caſt the land downeward if the land lye high and round, otherwiſe you ſhall never at any time caſt the land downe but ridge it up, that is to ſay, when you fallow it, you ſhall caſt the firſt furrow downeward, and ſo likewiſe the ſecond, which two furrowes being cleane ploughed, will lay the land open inough, that is, there will be no part of the ridge unploughed: which done, by changing your hand and the gate of your Plough, you ſhall plow thoſe furrowes backe againe and lay them upward, and ſo plough the whole land upward, alſo laying it round and high: the reaſon for this manner of plowing being this, that for as much as this land being mixt of clay and ſand, muſt needes be a ſore binding land, therefore if it ſhould be laid flat, if any great raine or wet ſhould fall, and a preſent drought follow it, neither ſhould you poſſibly force your Plough to enter into it, and breake it, or being broken ſhould you get ſo much mould as to cover your Corne and give the ſeede comfort; whereas upon the contrary part, if it bee laid high and upright, it muſt neceſſarily bee laid hallow and light, in ſo much that you may both plough it at your pleaſure, and alſo beget ſo perfect a mould as any other ſoile whatſoever, both becauſe the wet hath liberty to avoide through the hollowneſſe, and alſo becauſe the Sunne and weather have power to enter and ſeaſon it, wherefore in concluſion you ſhall fallow this field downeward if it lie high and upright, otherwiſe you ſhall fallow it upward as the meanes to bring it to the beſt Ardor.

Now

Now for this fallow field, it must ever bee made where the yeare before you did reape your Peaſe, in caſe you have but three fields, or where you did reape your Wheat, Rye, and Maſlin, in caſe you have foure fields, according to the manner of the blacke clay.

About the middeſt of February, which is within a day or two of Saint *Valentines* day, if the ſeaſon bee any thing conſtant in faireneſſe and drineſſe, you ſhall then beginne to ſowe your Peaſe: for you muſt underſtand, that albeit this ſoyle will beare Beanes, yet they are nothing ſo naturall for it as Peaſe, both becauſe they are an hungry ſeed, and doe much impayre and waſte the ground, and alſo becauſe they proſper beſt in a fat, looſe, and tough earth, which is contrary to this hard and drie ſoyle: but eſpecially if you have foure fields, you ſhall forbeare to ſowe any Beanes at all, leſt you loſe two commodities, that is, both quantitie of graine, (becauſe Beanes are not ſo long and fruitfull upon this earth, as upon the clayes) and the Manuring of your ground, which Peaſe out of their owne natures doe, both by the ſmothering of the ground, and their owne fatneſſe, when your Beanes doe pill, and ſucke the heart out of the earth. Of ſowing Peaſe.

Now for the manner of ſowing your Peaſe, you ſhall ſow them above furrow, that is, firſt plough the land upward, then immediately ſow your Peaſe, and inſtantly after harrow them, the Plough, the Seeds-man, and the Harrower, by due courſe, following each other, and ſo likewiſe you may ſow Oates upon this ſoyle.

About the middeſt of March, which is almoſt a fortnight before our Lady day, you ſhall begin to ſowe your Barley, which Barley you ſhall ſowe neither under furrow, nor above, but after this order: firſt, you ſhall plough your land downeward, beginning at the furrow, and ſo aſcending upward to the ridge of the land, which as ſoone as you have opened, you ſhall then by pulling the Plough out of the earth, and laying the ſhelboard croſſe the ridge, you ſhall fill the ridge in againe with the ſame mould which Of ſowing Barley.

you ploughed up: this done, your Seeds-man shall bring his Barley, and sowe the land above furrow: after the land is sowen, you shal then harrow it as small as may be, first with a paire of woodden Harrows, and after with a paire of yron Harrowes, or else with a double Oxe harrow; for this earth being somewhat hard and much binding, will aske great care and diligence in breaking.

Of sleighting. After your Barley is sowne, you shall about the latter end of *April* beginne to smooth and sleight your land, both with the backe Harrowes and with the rowler, and looke what clots they faile to breake, you shall with clotting beetles beate them asunder, making your mould as fine, and laying your Land as smoth as is possible.

Of Summer-stirring. About the middest of *May*, you shall, if any wet fall, beginne to Summer-stirre your Land, or if no wet fall, you shall doe your endeavour to Summer-stirre your Land, rather adventuring to breake two Ploughes, then to lose one day in that labour, knowing this, that one land Summer-stird in a dry season, is better then three Summer-stird in a wet or moist weather, both because it gives the earth a better temper, and kills the weedes with more assuredness, and as I speake of Summer-stirring, so I speake of all other Ardors, that the drier they are done, the better they are ever done: and in this season you shall also gather the Stones from your ground.

Objection. Now it may bee objected, that if it bee best to plow in drie seasons, it is then best to fallow also in a drie season, and by that meanes not to beginne to fallow untill the beginning of *May*, as is prescribed for the blacke clay, and so to deferre the Summer-stirring till the next month after, sith of necessitie *Ianuary* must either bee wette or else unkindely.

Answer. To this I make answere, that most true it is, that the land which is last fallowed is ever the best and most fruitfull, yet this mixt earth which is compound of sand and clay, is such a binding earth, that if it bee not taken and fallowed in a moist time of the yeare, as namely, in

Ianuary

January or *Februarie*, but suffered to lye till *May*, at which time the drought hath so entred into him, that the greatest part of his moysture is decayed, then I say, the nature of the ground is such, and so hard, that it will be impossible to make any Plough enter into it, so that you shall not onely adventue the losse of that speciall Ardor, but also of all the rest which should follow after, and so consequently loose the profit of your Land: where contrariewise if you fallow it at the beginning of the yeare, as in *January*, and *Februarie*, albe they bee wette, yet shall you lay up your furrowes and make the earth more loose, by which meanes you shall compasse all the other Earings which belong to your soile: for to speake briefely, late fallowing belongs unto clayes, which by drought are made loose and light, and earely fallowings unto mixt soiles, such as these which by drinesse doe ingender and bind close together.

About the middest of *Iune*, you shall beginne to weede your Corne, in such sort as hath beene before described in the former Chapters: and although this soile naturally of it selfe (if it have received his whole Ardor in due seasons, and have beene Ploughed cleane, according to the office of a good Husband) doth neither put forth Thistle, or other weede, yet if it want either the one or the other, it is certaine that it puts them foorth in great abundance, for by Thistles and weeds, upon this soile, is ever knowne the goodnesse and diligence of the Husbandman. Of Weeding.

About the middest of *Iuly*, you shall beginne to foile your land, in such sort as hath beene mentioned in the former Chapters, onely with this observation that if any of your lands lye flat, you shall then, in your foiling, plough those lands upward and not downeward, holding your first precept that in this soile, your lands must lye high, light, and hollow, which if you see they doe, then you may if you please in your foiling cast them downeward, because at Winter-ridging you may set them up againe. Of Foiling.

Now

Of Manuring.

Now for as much as in this Chapter I have hitherto omitted to speak of manuring this soile, you shall understand, that it is not because I hold it so rich that it needeth no Manure, but because I know there is nothing more needfull unto it then Manure, in so much that I wish not the Husbandman of this ground to binde himselfe unto any one particular season of the yeere for the leading forth of his Manure, but to bestow all his leasurable houres and rest from other workes onely upon this labour, even through the circuit of the whole yeare, knowing this most precisely, that at what time of the yeare soever you shall lay manure upon this earth, it will returne much profit.

As for the choyse of Manures upon this soyle, they are all those whatsoever, of which I have formerly intreated in any of the other Chapters, no Manure whatsoeuer comming amisse to this Ground: provided, that the Husbandman have this respect to lay upon his moysteſt and coldeſt ground his hotteſt Manures, and upon his hotteſt and drieſt earth his cooleſt and moysteſt Manures: the hot Manures being Sheepes-dung, Pigeons-dung, Pullen-dung, Lyme, Ashes, and such like: the coole being Oxe-dung, Horse-dung, the scourings of Ponds, Marle, and such like.

Of Winter-ridging.

About the middeſt of *September* you shall beginne to Winter-ridge your land, which in all points you shall doe according as is mentioned in the former Chapters of the Clayes: for in this Ardor there is never any difference, onely this one small observation, that you may adventure to Winter-ridge this mixt earth sooner then any other: for many of our beſt English Husbandmen which live upon this soile doe hold this opinion, that if it be Winter-ridged so earely in the yeere, that through the vertue of the latter spring it put forth a certaine greene weede like mosse, being short and soft, that the land is so much the better therefore, being as they imagine both fed and comforted by such a slender expression which doth not take from the land any heart, but like a warme covering doth ripen and make

make mellow the mould, and this cannot be effected but onely by early Winter-ridging.

At the end of *September*, you shall beginne to sow your Wheate, Rye, and Maslin, all which Graines are very naturall, good, and profitable upon this soile, and are to bee sowne after the same manner, and with the same observations which are specified in the former Chapter of the blacke Clay, that is to say, the Wheate under furrow, and unharrowed, the Rye and Maslin above furrow, and well harrowed. And herein is also to bee remembred all those precepts mentioned in the Chapter of the blacke Clay, touching the division of the fields, that is to say, if you have three fields, you shall then sow your Wheate, Rye and Maslin in your fallow-field, and so save both the Foyling and double Manuring of so much earth: but if you have foure fields, then you shall sow those graines upon that land from whence the same yeare you did reape your Pease; your Wheate having no other Manure then that which came by the Pease, your Rye having, if possible, either Manure from the Cart, or from the Folde, in such sort as hath beene shewed in the Chapter of the blacke Clay, and this of Husbandmen is called Inam-wheate, or Inam-rye, that is, white-corne sowne after white-corne, as Barley after Barley, or hard-corne after hard-corne, which is, Wheate after Pease. Of sowing of Wheate, Rye, and Maslin.

Now for the Plough which is most proper for this soile it is to be made of a middlesize betwixt that for the blacke Clay, and that for the red Sand, being not all out so bigge and unwieldy as the first, nor so slender and nimble as the latter, but taking a middle proportion from them both, you shall make your Plough of a competent fitnesse. Of the plough.

As for the Irons, the Share must be of the same proportion that the Share for the red Sand is, yet a little thought bigger, and the Coulture of the fashion of that Coulture, onely not full so much bent, but all-out as sharpe and as long: and these Irons must bee ever well maintained with steele, for this mixt earth is ever the hardest, and Of the plough-Irons.

weareth both the Plough and Irons sooneſt, and therefore it is agreed by all Husbandmen that this Plough muſt not at any time want his Plough-ſlip, except at the firſt going of the Plough you ſhall finde that it hath too much land, that is to ſay, by the croſſe ſetting on of the beame, that it runneth too greedily into the land, which to helpe, you ſhall let your Plough goe without a Plough-ſlip, till the Plough-head be ſo much worne, that it take no more but an ordinary furrow, and then you ſhall ſet on your Plough-ſlips and Plough-clouts alſo: but I write this in caſe there be imperfection in the Plough, which if it bee otherwiſe, then this obſervation is needleſſe.

Of the Teame. Now for the Teame or Draught which ſhall draw this Plough, they are as the former, Oxen and Horſes, and their number, the ſame that is preſcribed for the blacke Clay, as namely, eight or ſixe Beaſts for Peaſe-earth, for fallowing, and Summer-ſtirring; and ſixe or foure for all other Ardors: for you muſt underſtand that this mixt and binding ſoile, through his hardneſſe, and gluttenous holding together, is as hard to plow as any clay-ſoile whatſoever, and in ſome ſpeciall ſeaſons more by many degrees.

Of the white Clay with white Sand. Now for the white Clay mixt with white Sand, it is an earth much more barraine, then this former mixt earth, and bringeth forth nothing without much care, diligence, and good order: yet for his manner of Earings, in their true natures every way they differ nothing from the Earings of this blacke Clay and red Sand, onely the Seede which muſt be ſowne upon this ſoile differeth from the former: for upon this ſoile in ſtead of Barley you muſt ſow moſt Oates, as a Graine which will take much ſtrength from little fertilitie: and in ſtead of Rye you ſhall ſow more Wheate and more Peaſe, or in ſtead of Peaſe, then you ſhall ſow Fitches of either kind which you pleaſe, and the increaſe will be (though not in abundance, yet) ſo ſufficient as ſhall well quit the Plow-mans labour.

Of Manuring. Now for the Manuring of this ground, you ſhall underſtand that Marle is the chiefeſt: for neither will any man

man ſuppoſe that this hard ſoile ſhould bring up Cattell ſufficient to Manure it, nor if it would, yet that Manure were not ſo good: for a barraine clay being mixt with a moſt barraine ſand, it muſt conſequently follow that the ſoile muſt be of al the barenneſt, inſomuch, that to give perfect ſtrength and life unto it, there is nothing better then Marle, which being a fat and ſtrong Clay, once incorperated within theſe weake moulds, it muſt needes give them the beſt nouriſhment, looſening the binding ſubſtance, and binding that weakneſſe which occaſioneth the barrainneſſe: but of this Marle I ſhall have more occaſion to ſpeake heereafter in a particular Chapter, onely thus much I muſt let you underſtand, that this ſoile, albe it be not within any degree of praiſe for the bringing forth of Corne, yet it is very apt and fruitfull for the breeding of graſſe, inſomuch, that it will beare you corne for at leaſt nine yeares together (without the uſe of any fallow or Tilth-field) if it bee well Marled, and immediately after it will beare you very good breeding graſſe, or elſe reaſonable Medow for as many yeeres after, as by daily experience we ſee in the Countries of *Lancaſter* and *Cheſter*. So that the conſequence being conſidered, this ground is not but to be held indifferent fruitfull: for whereas other ſoiles afore ſhewed (which beare abundance of Graine) are bound to bee Manured once in three yeeres, this ſoile, albe it beare neither ſo rich graine, nor ſo much plenty, yet it needes Marling not above once in ſixteene or eighteene yeares: and albe Marle bee a Manure of the greateſt coſt, yet the profit by continuance is ſo equall that the labour is never ſpent without his reward, as ſhall more largely appeare hereafter.

As touching the Plough, it is the ſame which is mentioned in the other ſoile of the blacke Clay, and red Sand, altering nothing either in quantity of timber, or ſtrength of Irons: ſo that to make any large deſcription thereof, is but to double my former diſcourſes, and make my writings tedious. Of the plough.

For to conclude briefely, theſe two ſoiles differ onely

but in fatneſſe and ſtrength of nature, not in Earing, or Plowing, ſo that the labours of tillage being equall, there is not any alteration more then the true diligence of much manuring, which will breed an affinitie or alliance betwixt both theſe Soiles. And thus much for this blacke Clay and red Sand, or white Clay and white Sand.

CHAP. XIV.

Of the manner of plowing the blacke Clay mixt with white Sand, and the white Clay mixt with red Sand: their Earings, Plough, and Implements.

AS touching the mixtue of theſe two ſeverall ſoyles, that is to ſay, the blacke Clay with white Sand, and the white clay with red Sand, they differ not in the nature of Plowing, Sowing, or in Manuring, from the Soile which is mixt of a blacke Clay and red Sand, of which I have ſufficiently intreated before: onely thus much you ſhall underſtand, that the blacke Clay mixt with white ſand is ſo much better and richer then the white Clay mixt with red Sand, by as much as the blacke clay is better then the white clay: and although ſome Huſbandmen in our Land, hold them to be both of one temper and goodneſſe, reaſoning thus, that by how much the black clay is better then the white, by ſo much the red ſand is better then the white ſand, ſo that what the mixture of the one addeth, the mixture of the other taketh away, and ſo maketh them all one in fruitfulneſſe and goodneſſe: but in our common experience it doth not ſo fall out, for we finde that the blacke clay mixt with white ſand, if it be ordered in the forme of good Husbandry, that is to ſay, bee plowed over at leaſt foure times, before it come to bee ſowne, and that it bee manured and compaſſed in Husbandly faſhion, which is to allow at leaſt eight waine-load to an Aker, that if then upon ſuch Laud you ſhall ſow either Organe Wheat

(in

(in the South parts called red Wheat) or flaxen, or white Pollard Wheat, that such Wheat will often mildew, and turne as black as soot, which onely sheweth too much richnesse and fatnesse in the earth, which the white clay mixt with red sand hath never beene seene to doe, especially so long as it is used in any Husbandly fashion; neither will the white clay mixt with red sand indure to bee divided into foure Fields, that is to say, to beare three severall Crops, one after another, as namely, Barley, Pease, and Wheat, without rest, which the black clay mixt with white sand many times doth, and thereby againe sheweth his better fruitfulnesse: nevertheless, in generalitie I would not wish any good Husbandman, and especially such as have much tillage, to divide either of these soyles into any more then three fields, both because he shall ease himselfe and his Cattell of much toyle, shall not at any time lose the best seasons fot his best workes, and make his commodities, and fruit of his hands labours, by many degrees more certaine.

You shall also understand, that both these soiles are very much binding, especially the white clay with red sand, both because the clay, proceeding from a chaukie and limie substance, and not having in it much fatnesse or fertilitie (which occasioneth separation) being mixt with the red sand, which is of a much more hardnesse and aptnesse to knit together, with such tough matter, it must necessarily bind and cleave together, and so likewise the black clay, from whence most naturally proceedeth your best lime-stone, being mixt with white sand, doth also binde together and stifle the seed, if it be not prevented by good husbandry.

You shall therefore in the plowing and earing of these two soyles, observe two especiall notes; the first, that by no meanes you plow it in the wet, that is, in any great glut of raine: for if you either lay it up, or cast it downe, when it is more like morter then earth, if then any Sunneshine, or faire weather, doe immediately follow upon it, it will so drie and bake it, that if it be sowen, neither will the seed have strength to sprout thorow it, nor being in

any of your other Summer ardors, shall you by any meanes make your plough enter into it againe, when the season falleth for other plowing. The second, that you have great care you lay your land high and round, that the furrowes, as it were standing upright one by another, or lying light and hollow one upon another, you may with more ease, at any time, enter in your plough, and turne your mould which way you please, either in the heat of Summer, or any other time of the yeare whatsoever.

Now as touching the Plough, which is most best and proper for these soyles, it would be the same in size which is formerly directed for the red Sand, onely the Irons must bee altered, for the Coulter would bee more long, sharpe, and bending, and the Share so narrow, sharpe and small as can conveniently be made, according as is formerly expressed, that not having power to take up any broad furrow, the furrowes by reason of their slenderneſſe, may lye many, and those many both hollow, light, and at any time easily to bee broken.

As for the Teame which is best to worke in this soyle, they may bee either Horses or Oxen, or Oxen and Horse mixt together, according to the Husbandmans abilitie; but if he be a Lord of his owne pleasure, and may command, and have every thing which is most apt and proper, then in these two soyles, I preferre the Teame of Horses single, rather then Oxen, especially in any winter or moyst ardor, because they doe not tread and soyle the ground, making it myrie and durtie as the Oxe doth, but going all in one furrow, doe keepe the Land in his constant firmneſſe:

As touching the clotting, sleighting, weeding, and dressing of these two soyles, they differ in nothing from the former mixt earths, but desire all one manner of diligence: and thus much for these two soyles, the blacke clay mixt with white sand, and the white clay with white red sand.

CHAP.

CHAP. XV.

A comparison of all the former soyles together, and most especiall notes for giving the ignorant Husbandman perfect understanding, of what is written before.

THE reason why I have thus at large discoursed of every severall Soyle, both simple and compounded, is to shew unto the industrious Husbandman, the perfect and true reason of the generall alteration of our Workes in Husbandry, through this our Realme of *England*: for if all our Land, as it is one Kingdome, were likewise of one composition, mixture, and goodnesse, it were then exceeding preposterous to see those diversities, alterations, I, and even contrary manners of proceedings in Husbandrie, which are daily and hourely used: but every man in his owne worke knowes the alteration of climates. Yet for so much as this labour of Husbandry, consisteth not for the most part in the knowing and understanding breast, but in the rude, simple, and ignorant Clowne, who onely knoweth how to doe his labour, but cannot give a reason why he doth such labour, more then the instruction of his parents, or the custome of the Country, where it comes to passe (and I have many times seene the same to mine admiration) that the skilfulleſt Clowne which is bred in the Clay soyles, when he hath beene brought to the sandy ground, hee could neither hold the Plough, temper the Plough, nor tell which way in good order to drive the Cattell, the heavinesse of the one labour being so contrary to the lightnesse of the other, that not having a temperance, or understanding in his hands, hee hath beene put even unto his wittes ends; therefore I thinke it convenient, in this place, by a sleight comparison of soyles together, to give the simpleſt Husbandman such direct and plaine rules that hee

shall

ſhall without the ſtudy of his braines, attaine to abſolute knowledge of every ſeverall mixture of earth: and albeit hee ſhall not bee able diſtinctly to ſay at the firſt that it is compounded of ſuch and ſuch earthes, yet hee ſhall be very able to deliver the true reaſon and manner how ſuch ground (of what nature ſoever) ſhall be Husbanded and tilled.

Therefore to beginne, the Husbandman is to underſtand, that generally there are but two ſoyles for him to regard, for in them conſiſteth the whole Arte of Huſbandry: as namely, the open and looſe earth, and the cloſe and faſt binding earth, and theſe two ſoyles being meere oppoſites and contraries, moſt neceſſarily require in the Husbandman a double underſtanding, for there is no ſoyle, of what ſimplicity or mixture ſoever it be, but it is either looſe or faſt.

Now to give you my meaning of theſe two words, *looſe* and *faſt*, it is, that every ſoyle which upon parching and dry weather, even when the Sunne beames ſcorch, and as it were bake the earth, if then the ground upon ſuch exceeding drought doe moulder and fall to duſt, ſo that whereas before when it did retaine moyſture it was heavie, tough, and not to be ſeparated, now having loſt that glewineſſe it is light, looſe, and even with a mans foote to bee ſpurnd to aſhes, all ſuch grounds, are tearmed looſe and open grounds, becauſe at no time they doe binde in, or impriſon the ſeede (the froſt time onely excepted, which is by accidence, and not from the nature of the ſoyle:) and all ſuch grounds as in their moiſture, or after the fall of any ſodaine raine, are ſoft, plyable, light, and eaſie to bee wrought, but after, when they come to loſe that moiſtneſſe, and that the powerfulneſſe of the Sunne hath as it were, dryde up their veines, if then ſuch earthes become hard, firme, and not to be ſeparated, then are thoſe ſoiles tearmed faſt and binding ſoiles, for if their Ardors be not taken in their due times, and their ſeede caſt into them in perfect and due ſeaſons, neither is it poſſible for

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the Plow-man to plow them, nor for the ſeede to ſprout through, the earth being ſo faſtned and as it were, ſtone-like fixt together. Now ſithence that all ſoyles are drawne into theſe two heads, faſtneſſe, and looſeneſſe, and to them is annexed the diverſitie of all tillage, I will now ſhew the ſimple Husbandman which earthes be looſe, and which faſt, and how without curioſitie to know and to diſtinguiſh them.

Briefely, all ſoyles that are ſimple and of themſelves uncompounded, as namely, all Clayes, as blacke, white, gray, or blew, and all Sands, as either red, white, or blacke, are open and looſe ſoyles: the Clayes becauſe the body and ſubſtance of them being held together by moiſtneſſe, that moiſture being dryed up, their ſtrength and ſtiffneſſe decayeth, and Sands by reaſon of their naturall lightneſſe, which wanting a more moiſt and fixt body to be joyned with them, doe looſe all ſtrength of binding or holding together. Now all mixt or compound earths (except the compoſitions of one and the ſame kindes, as clay with clay, or ſand with ſand) are ever faſt and binding earths: for betwixt ſand and clay, or clay and gravell, is ſuch an affinity, that when they be mixt together, the ſand doth give to the clay ſuch hardneſſe and dryneſſe, and the clay to the ſand ſuch moiſture and coldneſſe, that being fixt together they make one hard body, which through the warmth of the Sunne bindeth and cleaveth together. But if it bee ſo that the ignorance of the Husbandman cannot either through the ſubtiltie of his eye-ſight, or the obſervations gathered from his experience, diſtinguiſh of theſe ſoyles, and the rather, ſith many ſoyles are ſo indifferently mixt, and the colour ſo very perfect, that even skill it ſelfe may bee deceived: as firſt to ſpeake of what mixture ſome ſoyles conſiſt, yet for as much as it is ſufficient for the Husbandman to know which is looſe, and which is binding, he ſhall onely when he is perplext with theſe differences, uſe this experiment, he ſhall take a good lumpe of that earth whoſe temperature he would know, and working it with

water and his wet hands, like a piece of paſte, he ſhall then as it were, make a cake thereof, and laying it before an hot fire, there let it lye, til all the moiſture be dried and baked out of it, then taking it into your hands, and breaking it in pieces, if betweene your fingers it moulder and fall into a ſmall duſt, then bee aſſured it is a looſe, ſimple, and uncompounded earth, but if it breake hard and firme, like a ſtone, and when you crumble it betweene your fingers, it be rough, greetie, and ſhining, then be aſſured it is a compounded faſt-binding earth, and is compounded of clay and ſand, and if in the baking it doe turne red or rediſh, it is compounded of a gray clay, and red ſand, but if it bee browne or blewiſh, then it is a black clay and white ſand, but if when you breake it you finde therein many ſmall Pibles, then the mixture is clay and gravell. Now there bee ſome mixt ſoiles, after they are thus bak't, although they bee hard and binding, yet they will not bee ſo exceeding hard and ſtone-like as other ſoyles will be, and that is where the mixture is unequall, as where the clay is more then the ſand, or the ſand more then the clay.

When you have by this experiment found out the nature of your earth, and can tell whether it be ſimple or compounded, you ſhall then looke to the fruitfulneſſe thereof, which generally you ſhall thus diſtinguiſh. Firſt, that clayes, ſimple, and of themſelves uncompounded, are of all the moſt fruitfull, of which, blacke is the beſt, that next to clayes, your mixt earthes are moſt fertile, and the mixture of the blacke clay, and red ſand, called a haſell earth, is the beſt, and that your ſands are of all ſoiles moſt barraine, of which the red ſand for profit hath ever the preheminenſie.

Now for the generall tillage and uſe of theſe grounds, you ſhall underſtand that the ſimple and uncompounded grounds, being looſe and open (if they lye free from the danger of water) the Lands may bee layd the flatteſt and greateſt, the furrowes turned up the largeſt and cloſeſt, and the Plough and Plough-Irons, moſt large and maſſie, onely

onely those for the sandy grounds must bee more slender then those for the clayes, and much more nimble, as hath beene showed before. Now for the mixt earths, you shall lay your Lands high, round, and little, set your furrowes upright, open, and so small as is possible, and make your Plough and plow Irons most nimble and slender, according to the manner before specified: and thus I conclude, that he which knoweth the loose earth and the binding earth, can either helpe or abate the strength of the earth, as is needfull, and knowes how to sort his Ploughes to each temper, knowes the ground and substance of all tillage:

CHAP. XVI.

Of the planting or setting of Corne, and the profit thereof.

NOt that I am conceited, or carried away with any novelty or strange practice, unusually practiced in this kingdome, or that I will ascribe unto my selfe to give any judiciall approbation or allowance to things meerely unfrequented, doe I publish, within my booke, this relation of the setting of Corne, but onely because I would not have our English Husbandman to bee ignorant of any skill or obscure faculties which is either proper to his profession, or agreeable with she fertilitie and nature of our clymates, and the rather, since some few yeares agoe, this (as it then appeared secret) being with much admiration bruited through the kingdome, insomuch, that according to our weake accustomed dispositions (which ever love strange things best) it was held so worthy, both for generall profit and particular ease, that very few (except the discreete) but did not alone put it in practice, but did even ground strong beliefes to raise to themselves great common-wealthes by the

profits thereof; some not onely holding insufficient arguments, in great places, of the inutilitie of the Plough, but even utterly contemning the poore cart Iade, as a creature of no necessitie, so that Poulters and Carriers, were in good hope to buy Horse-flesh as they bought Egges, at least five for a penny; but it hath proved otherwise, and the Husbandman as yet cannot loose the Horses service. But to proceede to the manner of setting or planting of Corne, it is in this manner.

Of setting Wheate.

Having chosen out an aker of good Corne ground, you shall at the beginning of *March*, appoynt at least sixe diggers or labourers with spades to digge up the earth Gardenwise, at least a foote and three inches deepe (which is a large spades graft) and being so digged up, to rest till *Iune*, and then to digge it over againe, and in the digging to Trench it and Manure it, as for a garden mould, bestowing at least sixteene Waine-load of Horse or Oxe Manure upon the aker, and the Manure to bee well covered within the earth, then so to let it rest untill the beginning of *October*, which being the time for the setting, you shall then digge it up the third time, and with rakes and beetles breake the moulde somewhat small, then shall you take a board of sixe foote square, which shalbe bored full of large wimble holes, each hole standing in good order, just sixe inches one from another, then laying the board upon the new digged ground, you shall with a stick, made for the purpose, through every hole in the board, make a hole into the ground, at least foure inches deepe, and then into every such hole you shall drop a Corne of Wheate, and so removing the board from place to place, goe all over the ground that you have digged, and so set each severall Corne sixe inches one from another, and then with a rake you shall rake over and cover all the holes with earth, in such sort that they may not bee discerned. And herein you are to observe by the way that a quarte of Wheate will set your aker: which Wheate is not to bee taken as it falles out by chance when you buy it in

in the market, but especially culd and pickt out of the eare, being neither the uppermost Cornes which grow in the toppes of the eares, nor the lowest, which grow at the setting on of the stalke, both which, most commonly are light and of small substance, but those which are in the midst, and are the greatest, fullest, and roundest.

Of setting Barley, or Pease.

Now in the selfe-same sort as you dresse your ground for your Wheate, in the selfe same manner you shall dresse your ground for Barley, onely the first time you digge it shalbe after the beginning of *May*, the second time and the Manuring about the midst of *October*, wherein you shall note that to your aker of Barley earth, you shall allow at least foure and twentie Waine-load of Manure, and the last time of your digging and setting shalbe at the beginning of *Aprill*.

Now for the dressing of your earth for the setting of Pease, it is in all things answerable to that for Barley, onely you may save the one halfe of your Manure, because a dosen Waine-load is sufficient, and the time for setting them, or any other pulse, is ever about the midst of *February*.

Of the profit of setting Corne.

Now for the profit which issueth from this practise of setting of Corne, I must needs confesse, if I shall speake simply of the thing, that is, how many foulds it doubleth, and increaseth, surely it is both great and wonderfull: and whereas in generall it is reputed that an Aker of set Corne yeeldeth as much profit as nine Akers of sowne Corne, for mine owne part I have seene a much greater increase, if every Corne set in an Aker should bring forth so much as I have seene to proceed from some three or foure Cornes set in a Garden, but I feare mee the generalitie will never hold with the particular: how ever, it is most certaine, that earth in this sort trimmed and inriched, and Corne in this sort set and preserved, yeeldeth at least twelve-fold more commoditie then that which by mans hand is confusedly throwne into the ground from the Hopper: whence it hath come to passe that those

which by a few Cornes in their gardens thus set, seeing the innumerable increase, have concluded a publicke profit to arise there by to the whole kingdome, not looking to the intricacie, trouble, and casualtie, which attends it, being such, and so insupportable that almost no Husbandman is able to undergoe it: to which wee neede no better testimony then the example of those which having out of meere covetousnesse and lucre of gaine, followed it with all greedinesse, seeing the mischiefes and inconveniences which hath incountred their works, have even desisted, and forgotten that ever there was any such practice, and yet for mine owne part, I will not so utterly condemne it, that I will deprive it of all use, but rather leave it to the discretion of judgement, and for my selfe, onely hold this opinion, that though it may very well be spared for the generall use of Wheate and Barley in this kingdome, yet for Hastie-pease, French Beanes, and such like pulse, it is of necessary imployment, both in rich and poore mens gardens. And thus much for the setting of Corne.

CHAP. XVII.

Of the choice of Seed-corne, and which is best for which soyle.

HAving thus showed unto you the severall soyles and temperatures of our English land, together with the order of Manuring, dressing, and tillage of the same, I thinke it meete (although I have in generall writ something already touching the seed belonging to every severall earth) now to proceede to a particular election and choice of Seede-corne, in which there is great care and diligence to be used: for as in Men, Beasts, Fowle, and every moving thing, there is great care taken for the choice of the breeders, because the creatures bred doe so much participate of the parents that for the most

part

part they are seene not onely to carry away their outward figures and semblances, but even their naturall conditions and inclinations, good issuing from good, and evill from evill: so in the choise of Seed-corne, if there be any neglect or careleſſeneſſe, the crop issuing of such corrupt Seed, must of force bring foorth a more corrupt harveſt, by as much as it exceedeth in the multiplication.

To proceede therefore, to the choyce of Seede-corne, I will begin with Wheate, of which there are divers kindes, as your whole straw Wheate, the great browne Pollard, the white Pollard, the Organe or read Wheate, the flaxen Wheate, and the chilter Wheate. Your whole strawe Wheate, and browne Pollard, are knowne, the first, by his straw, which is full of pith, and hath in it no hollowneſſe, whence it comes that Husbandmen esteeme it so much for their thacking, allowing it to be as good and durable as reede: the latter is knowne by his eare, which is great, white, and smooth, without anes or beard upon it: in the hand they are both much like one to another, being of all Wheates the biggeſt, roundeſt, and fulleſt: they bee somewhat of a high colour, and have upon them a very thicke huske, which making the meale somewhat browne causeth the Baker not all together to esteeme them for his pureſt Manchet, yet the yeeld of flower which commeth from them is as great and greater then any other Wheate whatsoever. Theſe two sorts of Wheate are to bee sowne upon the Fallow Field, as craving the greateſt strength and fatneſſe of ground, whence it comes that they are moſt commonly seene to grow upon the richeſt and stiffeſt blacke Clayes, being a graine of that strength that they will seldome or never mildew or turne blacke, as the other sorts of Wheate will doe, if the strength of the ground be not abated before they be throwne into the earth. Now for the choice of theſe two Wheates, if you be compelled to buy them in the market, you muſt regard that you buy that which is the cleaneſt and faireſt, being utterly without any weeds, as Darnell, Cockle, Tares, or

The choiſe of Seede Wheate.

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any other foulenesse whatsoever: you shall looke that the Wheat, as neere as may bee, hold all of one bignesse, and all of one colour, for to behold it contrary, that is to say, to see some great Cornes, some little, some high coloured, some pale, so that in their mixture they resemble changeable Taffata, is an apparant signe that the Corne is not of one kinde but mixt or blended, as being partly whole straw, partly Pollard, partly Organe, and partly Chelter. For the flaxen, it is naturally so white, that it cannot bee mixt but it may easily bee discerned; and these mixt seedes are never good, either for the ground or the use of man. Againe, you shall carefully looke, that neither this kinde of Wheat, nor any other that you buy for seed bee blacke at the ends, for that is a signe that the Graine comming from too rich a soyle was mildewed, and then it will never bee fruitfull or proove good seed; as also you shall take care that it be not too white at the ends, shewing the Corne to bee as it were of two colours, for that is a signe that the Wheate was washt and dryed againe, which utterly confoundeth the strength of the Corne, and takes from it all abilitie of bringing foorth any great encrease. Now if it bee so that you have a crop of Wheat of your owne, so that you have no need of the Market, you shall then picke out of your choysest sheafes, and upon a cleane floore gently batt them with a flaile, and not thresh them cleane, for that Corne which is greatest, fullest, and ripest, will first flye out of the eare, and when you have so batted a competent quantity, you shall then winnow it and dresse it cleane, both by the helpe of a strong wind and open sives, and so make it fit for your seed.

I have seene some Husbands, (and truely I have accounted them both good and carefull) that have before Wheate-seed-time both themselves, wives, children, and servants at times of best leasure, out of a great Wheate-mow or Bay, to gleane or pull out of the sheafes, eare by eare, the most principall eares, and knitting them up in small bundles, to batt them and make their seed thereof,

and

and queſtionleſſe it is the beſt ſeede of all other: for you ſhall bee ſure that therein can bee nothing but the cleaneſt and the beſt of the Corne, without any weedes or foulneſſe, which can hardly bee when a man threſheth the whole ſheafe; and although ſome men may thinke that this labour is great and troubleſome, eſpecially ſuch as ſow great quantities of Wheate, yet let them thus farre encourage themſelves, that if they doe the firſt yeere but gleane a buſhell or two (which is nothing amongſt a few perſons) and ſow it upon good Land, the increaſe of it will the next yeere goe farre in the ſowing the whole crop: for when I doe ſpeake of this picking of wheate, eare by eare, I doe not intend the picking of many quarters, but of ſo much as the increaſe thereof may amount to ſome quarter.

Now there is alſo another regard to bee had (as available as any of the former) in chooſing of your ſeede Wheate, and that is to reſpect the ſoyle from whence you take your ſeede, and the ſoyle into which you put it, as thus.

If the ground whereon you meane to ſow your Wheate be a rich, blacke clay, ſtiffe and full of fertilitie, you ſhall then (as neere as you can) chooſe your ſeede from the barraineſt mixt earth you can finde (ſo the Wheate bee whole-ſtraw or Pollard) as from a clay and gravell, or a clay and white ſand, that your ſeede comming from a much more barraine earth then that wherein you put it, the ſtrength may be as it were redoubled, and the increaſe conſequently amount to a higher quantity, as wee finde it proveth in our daily experience; but if theſe barraine ſoyles doe not affoord you ſeede to your contentment, it ſhall not then be amiſſe (you ſowing your Wheate upon fallow or tilth-ground) if you take your Seede-wheate either from an earth of like nature to your owne, or from any mixt earth, ſo that ſuch ſeede come from the Niams, that is, that it hath beene ſowne after Peaſe, as being the third crop of the Land, and not from the fallow or tilth

ground, for it is a maxime amongſt the beſt Husbands (though ſomewhat prepoſterous to common ſenſe) bring to your rich ground ſeede from the barraine, and to the barraine ſeede from the rich, their reaſon (taken from their experience) being this, that the ſeede (as before I ſaid) which proſpereth upon a leane ground being put into a rich, doth out of that ſuperfluitie of warmth, ſtrength and fatneſſe, double his increaſe; and the ſeede which commeth from the fat ground being put into the leane, having all the vigour, fullneſſe and juyce of fertileneſſe, doth not only defend it ſelfe againſt the hungrineſſe of the ground, but brings foorth increaſe contrary to expectation; whence proceedeth this generall cuſtome of good Husbands in this Land, that thoſe which dwell in the barraine wood Lands, Heathes and high Mountaine countries of this kingdome, ever (as neere as they can) ſeeke out their ſeede in the fruitfull low vales, and very gardens of the earth, and ſo likewiſe thoſe in the vales take ſome helpes alſo from the Mountaines.

Now for your other ſorts of Wheate, that is to ſay, the white Pollard and the Organe, they are graines nothing ſo great, full and large, as the whole ſtraw, or browne Pollard, but ſmall, bright, and very thinly huskt: your Organe is very red, your Pollard ſomewhat pale: theſe two ſorts of Wheate are beſt to bee ſowne upon the third or fourth field, that is to ſay, after your Peaſe, for they can by no meanes endure an over rich ground, as being tender and apt to ſprout with ſmall moiſture, but to mildew and choake with too much fatneſſe, the ſoyles moſt apt for them, are mixt earthes, eſpecially the blacke clay and red ſand, or white clay and red ſand, for as touching other mixtures of grounds, they are for the moſt part ſo barraine, that they will but hardly bring foorth Wheat upon their fallow field, and then much worſe upon a fourth field. Now for any other particular choice of theſe two ſeedes, they are the ſame which I ſhewed in the whole ſtraw, and great Pollard. As for the flaxen

Wheate,

Wheate, and chilter Wheate, the first, is a very white Wheate both inward and outward, the other a pale red or deepe yellow: they are the least of all sorts of Wheate, yet of much more hardnesse and toughnesse in sprouting, then either the Organe or white Pollard, and therefore desire somewhat a more richer soyle, and to that end they are for the most part sowne upon fallow fieldes, in mixt earths, of what natures or barrainnesse soever, as is to be seene most generally over all the South parts of this Realme: and although uncompounded sands out of their owne nature doe hardly bring forth any Wheate, yet upon some of the best sands, and upon the flintie gravels, I have seene these two Wheates grow in good abundance, but being seldome, it is not so much to be respected.

After your Wheate, you shall make choice of your Rye, of which there are not divers kinds, although it carry divers complections, as some blackish, browne, great, full and long, as that which for the most part growes upon the red sand, or red clay, which is three parts red sand mixt with blacke clay, and is the best Rye: the other a pale gray Rye, short, small, and hungry, as that which growes upon the white sand, or white clay and white sand, and is the worst Rye. Now you shall understand that your sand grounds are your onely naturall grounds for Rye, as being indeede not principally apt for any other graine, therefore when you chuse your Rye for seede, you shall chuse that which is browneſt, full, bould, and longest, you shall have great care that it bee free from weedes or filth, sith your sand grounds, out of their owne naturall heat, doe put forth such store of naughtie weedes, that except a man be extraordinarily carefull, both in the choice and dressing of his Rye, he may easily be deceived and poyson his ground with those weedes, which with great difficultie are after rooted out againe. Now for your seedes to each soyle, it is ever best to sow your best sand Rye upon your best clay ground, and your best clay Rye upon your best sand ground, obser-

The choice of seede Rye.

ving ever this generall principle, not onely in Rye, but even in Wheate, Barley, Peaſe, and other graine of account, that is, ever once in three yeeres, to change all your ſeede, which you ſhall finde both to augment your increaſe and to returne you double profit.

The choice of Seede-barley.

Now for the choice of your Seede-barley, you ſhall underſtand, that foraſmuch as it is a graine of the greateſt uſe, and moſt tenderneſſe, therefore there is the greateſt diligence to bee uſed in the election thereof. Know then that of Barley there be divers ſorts, as namely, that which wee call our common Barley, being long eares with two rankes of Corne, narrow, cloſe, and upright: another called ſpike, or Battledore-barley, being a large eare with two rankes of Corne, broad, flat, and in faſhion of a Battledore: and the third called Beane-barley, or Barley-big, being a large foure-ſquare eare, like unto an eare of Wheate.

Of theſe three Barleyes, the firſt is moſt in uſe, as being moſt apt and proper to every ſoyle, whether it bee fruitfull or barraine, in this our kingdome, but they have all one ſhape, colour and forme, except the ſoyle alter them, onely the Spike-barley is moſt large and plentifull, the common Barley hardeſt and apteſt to grow, and the Beane-barley leaſt, paleſt, and tendereſt; ſo that with us it is more commonly ſeene in gardens then in fields, although in other Countries, as in *France*, *Ireland*, and ſuch like, they ſow no other Barley at all, but with us it is of no ſuch generall eſtimation, and therefore I will neither give it precedencie, nor ſpeake of it, otherwiſe then to referre it to the diſcretion of him who takes delight in many practiſes: but for the common Barley, or Spike-barley, which our experience findes to be excellent and of great uſe, I will knit them in one, and write my full opinion of them, for their choice in our ſeede. You ſhall know then that when you goe into the market to chooſe Barley for your ſeede, you ſhall to your beſt power elect that which is whiteſt, fulleſt, and roundeſt, being as the Plough-man calles it, a full bunting Corne, like the nebbe or beake of a Bunting,

you

you shall observe that it be all of one Corne, and not mingled, that is, clay Barley, and sand Barley together, which you shall distinguish by these differences: the clay Barley is of a palish, white, yellow colour, smooth, full, large and round, and the sand Barley is of a deepe yellow, browne at the neather end, long, slender, and as it were, withered, and in generall no sand Barley is principall good for seed: but if the Barley bee somewhat of a high colour, and browne at the neather ende, yet notwithstanding is very full, bould, and bigge, then it is a signe that such Barley comes not from the sand, but rather from an over-fat soyle, sith the fatnesse of the earth doth ever alter the complection of the Barley; for the whiter Barley ever the leaner soyle, and better seed: You shall also observe, that there bee not in it any light Corne, which is a kinde of hungry graine without substance, which although it filleth the seeds-mans hand, yet it deceiveth the ground, and this light Corne will commonly be amongst the best Barley: for where the ground is so rich that it bringeth foorth the Barley too rankely, there the Corne, wanting power to stand upon root, falleth to the ground, and so robd of kindly ripening, bringeth foorth much light and insufficient graine. Next this, you shall take care, that in your seed-Barley there bee not any Oates; for although they bee in this case amongst Husbandmen accounted the best of weed, yet are they such a disgrace, that every good Husband will most diligently eschew them, and for that cause onely will our most industrious Husbands bestowe the tedious labour of gleaning their Barley, eare by eare, by which gleanings, in a yeere, or two, they will compasse their whole seed, which must infallibly be without either Oates or any weed whatsoever: and although some grounds, especially your richest blacke clayes, will out of the abundance of their fruitfulnesse (as not enduring to bee idle) bring foorth naturally a certaine kinde of wilde Oates, which makes some ignorant Husbandes lesse carefull of their Seed, as supposing that those wilde ones are a poysoning

to their Graine, but they are infinitely deceived: for such wilde Oates, whereſoever they bee, doe ſhake and fall away long before the Barley bee ready, ſo that the Husbandman doth carry of them nothing into the Barne, but the ſtraw onely. Next Oates, you muſt bee carefull that there be in your Barley no other foule weed: for whatſoever you ſow, you muſt looke for the increaſe of the like nature, and therefore as before I ſaid in the Wheat, ſo in the Barley, I would wiſh every good Husband to imploy ſome time in gleaning out of his Mow the principall eares of Barley, which being batted, dreſt, and ſowne by it ſelfe, albeit no great quantitie at the firſt, yet in time it may extend to make his whole ſeed perfect, and then he ſhall find his profit both in the Market, where hee ſhall (for every uſe) ſell with the deareſt, and in his owne houſe, where he ſhall find his yeeld redoubled.

Now for fitting of ſeverall Seedes to ſeverall ſoyles, you ſhall obſerve, that the beſt ſeed-Barley for your Clay-field, is Ninam Barley, ſowen upon the Clay field, that is to ſay, Barley which is ſowne where Barley laſt grew, or a ſecond crop of Barley: for the ground having his pride abated in the firſt Crop, the ſecond, though it bee nothing neere ſo much in quantitie, yet that Corne which it doth bring forth, is moſt pure, moſt white, moſt full, and the beſt of all Seeds whatſoever, and as in caſe of this Soyle, ſo in all other like ſoyles, which doe holde that ſtrength or fruitfulneſſe in them, that they are either able of themſelves, or with ſome helpe of Manure in the latter end of the yeere, to bring forth two Crops of Barley, one after the other: but if either your ſoyle deny you this ſtrength, or the diſtance of place bereave you of the commoditie therof, then you ſhall underſtand, that Barley from an haſell ground is the beſt ſeed, for the clay ground, and Barley from the clay ground is the beſt ſeed, not onely for the haſell earth, but even for all mixt earths whatſoever, and the Barley which proceeds from the mixt earths, is the beſt ſeed for all ſimple and uncompounded ſands or gravells,

as

as wee finde, both by their increasings, and daily experience.

Now for the choise of seed-Beanes, Pease, or other Pulse, the scruple is nothing neere so great as of other seeds, because every one that knowes any graine, can distinguish them when hee sees them: besides they are of that massie weight, and so well able to indure the strength of the wind, that they are easie to bee severed from any weed or filth whatsoever: it resteth therefore that I only give you instruction how to imploy them.

The choise of seed-Beanes, Pease, and Pulse.

You shall understand therefore, that if your soyle bee a stiffe, blacke, rich Clay, that then your best seed is cleane Beanes, or at the least three parts Beanes, and but one part Pease: if it be a gray, or white clay, then Beanes and Pease equally mixt together: if the best mixt earths, as a black clay and red sand, blacke clay and white sand, or white clay and red sand, then your seed must be cleane Pease onely: if it be white clay and white sand, blacke clay and black sand, then your seed must be Pease and Fitches mixt together: but if it bee gravell or sand simple, or gravell and sand compounded, then your seed must bee either cleane Fitches, cleane Bucke, or cleane Tares, or else Fitches, Bucke and Tares mixt together.

The choise of Seed-Oates.

Now to conclude with the choise of your Oates; You shall understand that there be divers kindes of them, as namely, the great long white Oate, the great long blacke Oate, the cut Oate, and the Skegge: the two first of these are knowne by their greatnesse and colours; for they are long, full, bigge, and smooth, and are fittest to be sowne upon the best of barraine grounds, for sith Oates are the worst of Graine, I will give them no other priorities of place. The next of these, which is the cut Oate, it is of a palye yellow colour, short, smooth, and thicke, the increase of them is very great, and they are the fittest to bee sowne upon the worst of best Grounds, for most commonly where you see them, you shall also see both good Wheate, good Barley, and good Beanes and Pease

also,

also. Now for the skegge Oate, it is a little, small, hungrie, leane Oate, with a beard at the small end like a wilde Oate, and is good for small use more then Pullen onely: It is a seed meet for the barrennest and worst earth, as fit to grow but there where nothing of better profit will grow. And thus much for those seedes which are apt and in use in our English soyles: wherein if any man imagine me guiltie of errour, in that I have omitted particularly to speake of the seed of blend-Corne, or Masline, which is Wheate and Rye mixt together: I answer him, that sith I have shewed him how to chuse both the best Wheat, and the best Rye, it is an easie matter to mixe them according to his owne discretion.

CHAP. XVIII.

Of the time of Harvest, and the gathering in of Corne.

NExt unto Plowing, it is necessarie that I place Reaping, sith it is the end, hope, and perfection of the labour, and both the merit and incouragement which maketh the toyle both light and portable: then to proceed unto the time of Harvest, you shall understand, that it is requisite for every good Husband about the latter end of Iuly, if the soyle wherein hee liveth be of any hott temper, or about the beginning of August, if it bee of temperate warmth, with all diligence constantly to behold his Rye, which of all Graines is the first that ripeneth, and if he shall perceive that the hull of the eare beginneth to open, and that the blacke toppes of the Corne doe appeare, hee may then be assured, that the Corne is fully ripe, and ready for the Sickle, so that instantly hee shall provide his Reapers, according to the quantitie of his Graine: for if he shall neglect his Rye but one day more then is fit, it is such a hastie graine, that it will

shale

ſhale forth of the huske to the ground, to the great loſſe of the Husbandman. When he hath provided his ſhearers, which he ſhall be careſull to have very good, he ſhall then looke that neither out of their wantonneſſe nor emulation, they ſtrive which ſhall goe faſteſt, or rid moſt ground, for from thence proceede many errours in their worke, as namely, ſcattering, and leaving the Corne uncut behind them, the cutting the heads of the Corne off, ſo that they are not poſſible to bee gathered, and many ſuch like incommodities, but let them goe ſoberly and conſtantly, and ſheare the Rye at leaſt fourteene inches above the ground. Then he muſt looke that the gatherers which follow the Reapers, doe alſo gather cleane, and the binders bind the Sheaves faſt from breaking, then if you finde that the bottome of the Sheaves be full of greenes, or weedes, it ſhall not be amiſſe to let the Sheaves lye one from another for a day, that thoſe greenes may wither, but if you feare any Raine or foule weather, which is the onely thing which maketh Rye ſhale, then you ſhall ſet it up in Shockes, each Shocke containing at leaſt ſeaven Sheaves, in this manner: Firſt, you ſhall place foure Sheaves upright cloſe together, and the eares upwards, then you ſhall take other three Sheaves and opening them and turning the eares downeward, cover the other foure Sheaves that ſtood upwards, and ſo let them ſtand, untill you may with good conveniencie leade them home, which would be done without any protraction. Next after your cleane Rye, you ſhall in the ſelfe-ſame ſort reape your Blend-corne, or Maſline: and albeit, your Wheate will not bee fully ſo ripe as your Rye, yet you ſhall not ſtay your labour, being well aſſured that your Rye is ready, becauſe Wheate will harden of it ſelfe after it is ſhorne, with lying onely. After you have got in your Rye and Blend-corne, you ſhall then looke unto your cleane Wheate, and taking heere and there an eare thereof, rubbe them in your hand, and if you finde that the Corne hath all perfection ſave a little hardning onely, you ſhall

The getting in of Maſlin.

The getting in of Wheate.

then forthwith ſet your Reapers unto it, who ſhall ſheare it in all things as they did ſheare your Rye, onely they ſhall not put it in Shockes for a day or more, but let the Sheaves lye ſingle, that the winde and Sunne may both wither the greenes, and harden the Corne: which done, you ſhall put the Sheaves into great Shockes, that is to ſay, at leaſt twelve or fourteene Sheaves in a Shocke, the one halfe ſtanding cloſe together with the eares upward, the other halfe lying croſſe overthwart thoſe eares, and their eares downeward, and in this ſort you ſhall let your Wheate ſtand for at leaſt two dayes before you leade it.

Now it is a cuſtome in many Countries of this kingdome not to ſheare their Wheate but to mow it, but in my conceit and in generall experience, it is not ſo good: for it both maketh the Wheate foule, and full of weede, and filleth up a great place with little commoditie; as for the uſe of thacking, which is the onely reaſon of ſuch diſorderly cutting, there is neither the ſtraw that is ſhorne, nor the ſtubble which is left behinde, but are both of ſufficiencie enough for ſuch an imployment, if it paſſe through the hands of a workman, as wee ſee in daily experience.

The getting in of Barley.

Next to your Wheate, you ſhall have regard to your Barley, for it ſodainely ripeneth, and muſt be cut downe aſſoone as you perceive the ſtraw is turned white, to the bottome, and the eares bended downe to the groundward. Your Barley you ſhall not ſheare, although it is a faſhion in ſome Countries, both becauſe it is painefull and profitleſſe, but you ſhall mow it cloſe to the ground; and although in generall it be the cuſtome of our kingdome, after your Barley is mowen, and hath lyen a day or two in ſwathe, then with rakes to rake it together, and make it into great cocks, and ſo to leade it to the Barne, yet I am of this opinion, that if your Barley be good and cleane without thiſtles or weedes, that if then to every ſitheman, or mower you alot two followers, that is to ſay, a gatherer

therer, who with a little short rake and a small hooke, shall gather the Corne together, and a binder, who shall make bands, and binde up the Barley in small sheaves, that questionlesse you shall finde much more profit thereby: and although some thinke the labour troublesome and great, yet for mine owne part, I have seene very great crops inned in this manner, and have seene two women, that with great ease, have followed and bound after a most principall mower, which made me understand that the toyle was not so great as mine imagination; and the profit ten-fold greater then the labour: but if your Corne be ill Husbanded, and full of Thistles, Weedes, and all filthinesse, then this practice is to be spared, and the loose cocking up of your Corne is much better. Assoone as you have cleansed any Land of Barley, you shall then immediately cause one with a great long rake, of at least thirtie teeth, being in a sling bound bauticke-wise crosse his body, to draw it from one end of the Land to the other, all over the Land, that hee may thereby gather up all the loose Corne which is scattered, and carry it where your other Corne standeth, observing ever, as your chiefest rule, that by no meanes you neither leade Barley, nor any other graine whatsoever, when it is wet, no although it bee but moystned with the dew onely: for the least dankishnesse, more then the sweate which it naturally taketh, will soone cause it to putrifie.

Now for the gathering in of your Oates, they be a graine of such incertainty, ripening ever according to the weather, and not after any setled or natural course, that you are to look to no constant season, but to take them upon the first showof ripenesse, and that with such diligence that you must rather take them before, then after they be ripe, because if they tarry but halfe a day too long, they will shed upon the ground, and you shall lose your whole profit. The time then fittest to cut your Oates is, assoone as they be somewhat more then halfe changed, but not altogether changed, that is, when they are more then two parts white, and yet the greene not ut- The getting in of Oates.

terly extinguished, the best cutting of them is to mow them (albeit I have seene them shorne in some places) and being mowen to let them dry and ripen in the swathe, as naturally they will doe, and then if you bind them up in Sheaves, as you should binde your Barley, it is best: for to carry them in the loose cocke, as many doe, is great losse and hindrance of profit.

The getting in of Pulse.

After you have got in your white Corne, you shall then looke unto your pulse, as Beanes, Pease, Fitches, and such like, which you shall know to be ready by the blacknesse of the straw: for it is a rule, whensoever the straw turnes, the Pulse is ripe. If then it bee cleane Beanes, or Beanes and Pease mixt, you shall mowe them, and being cleane Beanes, rake them into heapes, and so make them up into cockes, but if they be mixt, you shall with hookes fould the Beanes into the Pease, and make little round reapes thereof, which after they have beene turned and dryed, you may put twentie reapes together, and thereof make a cocke, and so leade them, and stacke them: but if they bee cleane Pease, or Pease and Fitches, then you shall not mow them, but with long hookes cut them from the ground, which is called Reaping, and so foulding them together into small reapes, as you did your Pease and Beanes, let them be turned and dryed, and so cocked, and carried either to the Barne, stacke, or hovell.

Now having thus brought in, and finished your Harvest, you shall then immediatly mow up the stubble, both of your Wheat, Rye, and Maslio, and with all expedition there-with thacke, and cover from raine and weather, all such graine as for want of house-roome, you are compeld to lay abroad, either in stacke, or upon hovell: but if no such necessitie be, and that you have not other more necessary imployment for your stubble, it shall bee no part of ill Husbandry to let the stubble rot upon the Land, which will be a reasonable Manuring or fatting of the earth.

Now having brought your Corne into the Barne, it is a lesson needlesse to give any certaine rules how to spend

or

or utter it forth, ſith every man muſt be ruled according to his affaires, and neceſſitie, yet ſith in mine owne experience I have taken certaine ſetled rules from thoſe who have made themſelves great eſtates by a moſt formall and ſtrickt courſe in their Husbandry, I thinke it not amiſſe to ſhow you what I have noted from them, touching the utterance and expence of their Graine: firſt, for your expence in your houſe, it is meet that you have ever ſo much of every ſeverall ſort of Graine threſht, as ſhall from time to time maintaine your family: then for that which you intend ſhall returne to particular profit, you ſhall from a fornight before *Michaelmas*, till a fortnight after, threſh up all ſuch Wheate, Rye, and Maſline, as you intend to ſell for ſeed, which muſt be winnowed, ſand, and dreſt ſo cleane as is poſſible, for at that time it will give the greateſt price; but as ſoone as Seede-time is paſt, you ſhall then threſh no more of thoſe graines till it be neere Midſommer, but begin to threſh up all ſuch Barley as you intend to convert and make into Malt, and ſo from *Michaelmas* till *Candlemas*, apply nothing but Malting, for in that time graine is ever the cheepeſt, becauſe every Barne being full, ſome muſt ſell for the paiment of Rents, ſome muſt ſell to pay Servants wages, and ſome for their Chriſtmas Proviſions: in which time Corne abating and growing ſcarce, the price of neceſſitie muſt afterwards riſe: at Candlemas you ſhall begin to threſh all thoſe Peaſe which you intend to ſell for ſeede, becauſe the time being then, and every man, out of neceſſitie, inforced to make his proviſion, it cannot be but they muſt needes paſſe at a good price and reckoning.

After Peaſe ſeede-time, you ſhall then threſh up all that Barly which you meane to ſell for ſeede, which ever is at the deareſt reckoning of any graine whatſoever, eſpecially if it be principally good and cleane. After your ſeede-Barly is ſould, you may then threſh up all ſuch Wheate, Rye, and Maſlin, as you intend to ſell: for it ever giveth the greateſt price from the latter end of May untill the

beginning of September. In September you ſhall begin to ſell your Mault, which being old, and having lyen ripening the moſt part of the yeare, muſt now at the latter end of the yeare, when all old ſtore is ſpent, and the new cannot bee come to any perfection, bee moſt deare, and of the greateſt eſtimation: and thus being a man of ſubſtance in the world, and able to put every thing to the beſt uſe, you may by theſe uſuall obſervations, and the helpe of a better judgement, imploy the fruits of your labours to the beſt profit, and ſell every thing at the higheſt price, except you take upon you to give day, and ſell upon truſt, which if you doe, you may then ſell at what unconſcionable reckoning you will; which becauſe ſuch unnaturall exactions neither agree with charitie, nor humanitie, I will forbeare to give rules for the ſame, and referre every man that is deſirous of ſuch knowledge, to the examples of the World, wherein he ſhall finde Preſidents inough for ſuch evill cuſtomes.

And thus much for the firſt Part of this Worke, which containeth the manner of Plowing and Tillage onely.

THE

THE SECOND PART of the First Booke of the *English Husbandman*,

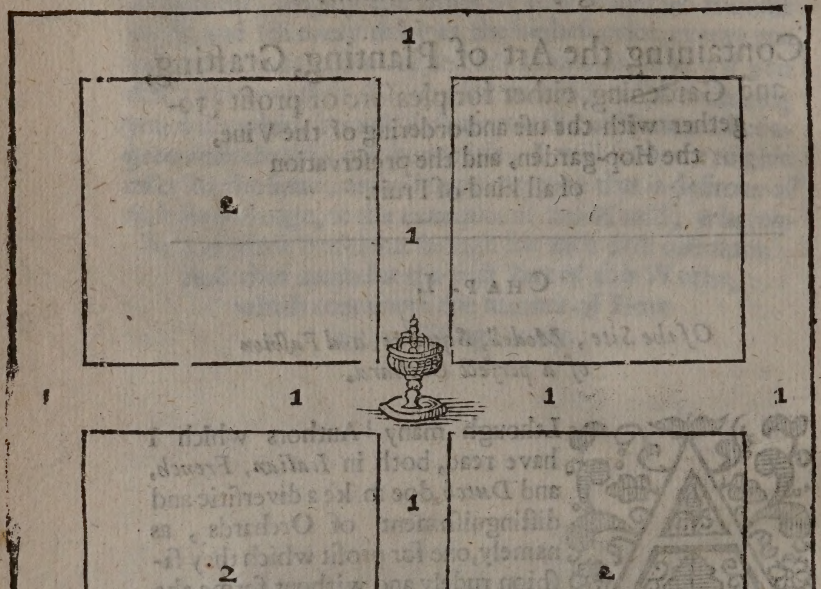
Containing the Art of Planting, Grafting, and Gardening, either for pleasure or profit; together with the use and ordering of the Vine, the Hop-garden, and the preservation of all kind of Fruit.

CHAP. I.

Of the Site, Modell, Squares, and Fashion of a perfect Orchard.

ALthough many Authors which I have read, both in *Italian*, *French*, and *Dutch*, doe make a diversitie and distinguishment of Orchards, as namely, one for profit which they fashion rudely and without forme, the other for delight, which they make comely, decent, and with all good proportion, dividing the quarters into squares, making the Alleyes of a constant breadth, and planting the fruite trees in artificiall rowes: yet forasmuch as the comlinesse and well contriving of the ground doth nothing abate, but rather increase the commoditie, I will therefore joyne them both together, and make them onely but one Orchard. Now for the Site and placing of this Orchard

Orchard, I have in the Modell of my Countrey house, or Husbandmans Farme, shewed you where, if it be possible, it should stand, and both what Sunne and ayre it should lye open upon: but if the site or ground-plot of your house wil not give you leave to place your Orchard according to your wish, you shall then be content to make a vertue of necessitie, and plant it in such a place as is most convenient, and neerest alyed to that forme before prescribed.



Now when you have found out a perfect ground plot, you shall then cast it into a great large square, which you shal fence

fence in either with a ſtone or bricke wall, a high, ſtrong pale, or great ditch with a quicke-ſet hedge, but the wall is beſt and moſt durable, and that wall would have upon the inſide within twelve or fourteene foot one of another, Iames or outſhoots of ſtone or bricke, betwene which you may plant and plaſh thoſe fruit-trees which are of greateſt tenderneſſe, the South and Weſt Sunne having power to ſhine upon them.

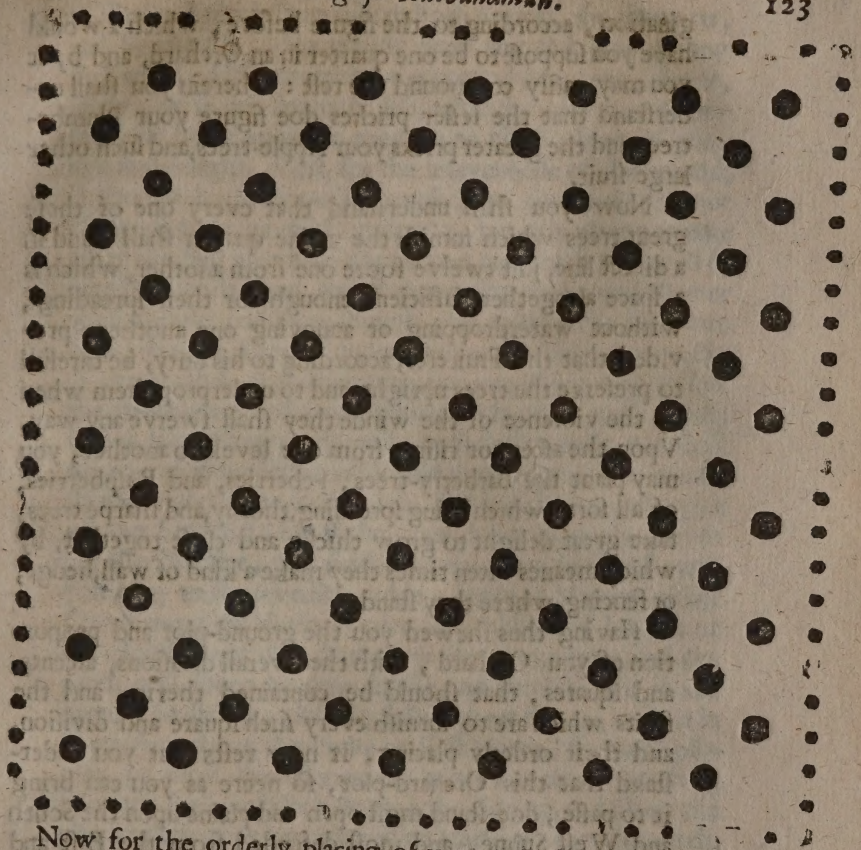
When you have thus fenc'd in this great ſquare, you ſhall then caſt foure large alleyes, at leaſt fourteene foote broad, from the wall round about, and ſo likewiſe two other alleyes of like breadth, directly croſſe overthwart the ground-plot, which will divide the great ſquare into foure leſſer ſquares, according to the figure before ſet downe.

The figure 1. ſheweth the alleyes which both compaſſe about, and alſo croſſe over the ground-plot, and the figure 2. ſheweth the foure quarters where the fruit-trees are to be planted.

Now if either the true nature and largeneſſe of the ground be ſufficient, or your owne abilitie of purſſe ſo great that you may compaſſe your deſires in theſe earthly pleaſures, it ſhall not be amiſſe, but a matter of great ſtate, to make your ground-plot full as bigge againe, that is to ſay, to containe eight large quarters, the firſt foure being made of an even levell, the other foure being raiſed at leaſt eight foote higher then the firſt, with convenient ſtaires of ſtate for aſcending to the ſame, to bee likewiſe upon another even levell of like forme, and if in the center of the alleyes, being the mid-point betweene the ſquares, might bee placed any quaint fountaines or any other antique ſtandard. the platforme would be more excellent, and if upon the aſcent from one levell to another there might be built ſome curious and artificiall banquetting houſe, it would give luſter to the Orchard.

Now for the planting and furniſhing of theſe quarters: you ſhall underſtand, that if your Orchard containe but foure quarters, then the firſt ſhalbe planted with Apple-

trees of all sorts, the second with Peares and Wardens of all sorts, the third with Quinces and Chesnuts, the fourth with Medlars and Services. Against the North side of your Orchard wall against which the South sunne reflects, you shall plant the Abricot, Verdochio, Peach, and Damaske-plumbe: against the East-side of the wall, the white Muskadine Grape, the Pescod-plumbe, and the Emperiall-plumbe: against the West-side the grafted Cherries, and the Olive-tree: and against the South-side the Almond, and Figge tree. Round about the skirts of every other outward or inward alley, you shall plant, the Wheate-Plumbe, both yellow and redde, the Rye-plumbe, the Damson, the Horse-clog, Bulleyes of all kindes, ordinary French Cherries, Filberts, and Nuts of all sorts, together with the Prune-plumbe, and other such like stone fruits. But if your Orchard be of state and prospect, so that it containe eight quarters or more (according to the limitation of the earth) then you shall in every severall quarter plant a severall fruit, as Apple-trees in one quarter, Peares in another, Quinces in another, Wardens in another, and so forth of the rest. Also you shall observe in planting your Apples, Peares and Plumbes, that you plant your Summer or early fruit by themselves, and the Winter or long lasting fruit by themselves. Of Apples, your Ienitings, Wibourns, Pomederoys, and Queene-Apples are reckoned the best early fruits, although there be divers others, and the Pippin, Peare-maine, Apple-Iohn, and Russetting, your best Winter and long lasting fruit, though there be a world of other: for the tastes of Apples are infinite, according to their composition and mixture in grafting. Of Peares, your Golden Peare, your Katherine-Peare, your Lording, and such like, are the first, and your stone-Peare, Warden-Peare, and Choake-Peare, those which endure longest. And of Plumbes, the Rye-plumbe is first, your Wheate-plumbe is next, and all the other sorts of Plumbes ripen almost together in one season, if they have equall warmth, and be all of like comfortable standing.



Now for the orderly placing of your trees, you ſhall underſtand that your Plumbe-trees (which are as it were a fence or guard about your great quarters) would bee placed in rowes one by one, above five foote diſtance one from another, round about each skirt of every alley: your Apple-trees and other greater fruit which are to be planted in the quarters, would bee placed in ſuch artificiall rowes that which way ſoever a man ſhall caſt his eyes, yet hee ſhall ſee the trees every way ſtand in rowes, making ſquares, alleyes, and diviſions, according to a mans imagination,

gination, according to the figure before, which I would have you ſuppoſe to be one quarter in an Orchard, and by it you may eaſily compound the reſt: wherein you ſhall underſtand that the leſſer prickes doe figure your Plumbe-trees, and the greater pricks your Apple-trees, and ſuch other large fruit.

Now you ſhall underſtand that every one of theſe great trees which furniſh the maine quarter ſhall ſtand in a direct line, juſt twelve foote one from another, which is a ſpace altogether ſufficient enough for their ſpreading, without waterdropping or annoying one another; provided that the Fruiterer, according to his duty, be carefull to preſerve the trees upright, and to underprop them when by the violence of the winde they ſhall ſwerve any way. Vpon the aſcent or riſing from one levell to another, you may plant the Barberry-trees, Feberries, and Raſpberries, of all ſorts, which being ſpreading, thorny, and ſharpe trees, take great delight to grow thicke and cloſe together, by which meanes often times they make a kind of wall, hedge, or fencing, where they ſtand.

Having thus ſhewed you the ground-plot and proportion of your Orchard, with the ſeverall diviſions, aſcents, and ſquares, that ſhould be contained therin, and the fruits which are to furniſh every ſuch ſquare and diviſion, and their orderly placing, it now reſts that you underſtand that this Orchard-plot, ſo neere as you can bring it to paſſe, doe ſtand moſt open and plaine upon the South and Weſt Sunne, and moſt defended from the Eaſt and North windes and bitterneſſe, which being obſerved your plot is then perfect and abſolute.

Now foraſmuch as where nature, fruitfulneſſe, and ſituation doe take from a man more then the halfe part of his induſtrie, and by a direct and eaſie way doth lead him to that perfection which others cannot attaine to without infinite labour and travell: and whereas it is nothing ſo commendable to maintaine beautie, as to make deformitie beautifull, I will ſpeake ſomething of the framing

of

of Orchard-plots there where both nature, the ſituation, and barainneſſe, doe utterly deny the enjoying of any ſuch commoditie, as where the ground is uneven, ſtonie, ſandy, or in his lowneſſe ſubject to the overflow of waters, all being apparant enemies to theſe places of pleaſure and delight. Firſt, for the unevenneſſe of the ground, if that be his uttermoſt imperfection, you ſhall firſt not onely take a note with your eye, but alſo place a marke upon the beſt aſcent of the ground to which the levell is fitteſt to bee drawne, and then plowing the ground all over with a great common Plough, by caſting the furrowes downward, ſeeke to fill in and cover the leſſer hollowneſſes of the ground, that there may not any thing appeare but the maine great hollowes, which with other earth which is free from ſtones, gravell, or ſuch like evils, you ſhall fill up and make levell with that part where your marke ſtandeth, and being ſo levelled, forthwith draw the plot of your Orchard: but if the ground be not onely uneven but alſo barraine, you ſhall then to every loade of earth you carry to the levelling, adde a loade of Manure, either Oxe Manure, or Horſe Manure, the rubbiſh of houſes, or the cleanſings of olde ditches, or ſtanding pooles, and the earth will ſoone become fertile and perfect; but if the ground be ſtonie, that is, full of great ſtones, as it is in *Darbiſhire* about the Peake or Eaſt Mores, for ſmall pibbles, or ſmall lime-ſtones are not very much hurtfull, then you ſhall cauſe ſuch ſtones to be digd up, and fill up the places where they lay either with Marle, or other rich earth, which after it hath beene ſetſed for a yeere or two, you ſhall then Plow and levell it, and ſo frame forth the plot of your Orchard. If the ground bee onely a barraine ſand, ſo that it wanteth ſtrength either to maintaine or bring foorth, you ſhall then firſt digge that earth into great trenches, at leaſt foure foot deepe, and filling them up with Oxe Manure, mixe it with the ſand that it may change ſome part of the colour thereof, and then levelling it faſhion out your Orchard. But laſtly, and which is of all ſitua-

tions the worſt, if you have no ground to plant your Orchard upon, but ſuch as either through the neighborhood of Rivers, deſcent of Mountaines, or the earths owne naturall qualitie in caſting and vomiting out water and moyſture, is ſubject to ſome ſmall overflowes of water, by which you cannot attaine to the pleaſure you ſeeke, becauſe fruit-trees can never indure the corruption of waters, you ſhall then in the drieſt ſeaſon of the yeare, after you have marked out that ſquare or quantity of ground which you intend for your Orchard, you ſhall then caſt therein ſundry ditches, at leaſt ſixteen foot broad, & nine foot deepe, and not above twelve foot betwixt ditch and ditch, upon which reſerved earth caſting the earth that you digged up, you ſhall raiſe the bankes at leaſt ſeven foot high of firme earth, and keepe in the top the full breadth of twelve foot, within a foot or little more: and in the caſting up of theſe bankes, you ſhall cauſe the earth to be beaten with maules and broad beetles, that it may lye firme, faſt, and levell; and after theſe bankes have reſted a yeere or more, and are ſufficiently ſetled, you may then at the nether end of the banke, neere to the verge of the water, plant ſtore of Oſiers, which will be a good defence to the banke, and upon the top and higheſt part of the banke, you ſhall plant your Orchard and fruit-trees, ſo that when any inundation of water ſhall happen, the ditches ſhall be able enough to receive it; or elſe making a paſſage from your Orchard into ſome other ſewer, the water exceeding his limits may have a free current or paſſage: beſides, theſe ditches being neatly kept, and comforted with freſh water, may make both pleaſant and commodious fiſh-ponds. Alſo you muſt be carefull in caſting theſe bankes, that you doe not place them in ſuch ſort, that when you are upon one you cannot come to the other, but rather like a maze, ſo that you may at pleaſure paſſe from the one to the other round about the ground, making of divers bankes to the eye but one banke in ſubſtance, and of divers ponds in appearance, but one in true judgement. And thus much for the plot or ſituation of an Orchard.

CHAP.

CHAP. II.

Of the Nurserie where you shall set all manner of Kernels, and Stones for the furnishing of the Orchard.

ALthough great persons, out of their greatnesse and abilitie, doe buy their fruit-trees ready grafted, and so in a moment may plant an Orchard of the greatest quantitie, yet sith the Husbandman must raise every thing from his owne indeavours, and that I onely write for his profit, I therefore hold it most convenient to begin with the Nurserie or Store-house of fruits, from whence the Orchard receiveth his beauty and riches.

This Nurserie must be a piece of principall ground, either through Art or Nature, strongly fenced, warme, and full of good shelter: for in it is onely the first infancie and tendernesse of fruit-trees, because there they are first kernels, or stones, after sprigs, and lastly trees.

Now for the manner of choosing, sowing and planting them in this Nurserie, I differ something from the French practice, who would choose the kernels from the cider presse, sow them in large beds of earth, and within a yeere after replant them in a wilde Orchard: now for mine owne part, though this course be not much faulty, yet I rather chuse this kind of practice first: to chuse your kernels either of Apples, Peares or Wardens, from the best and most principallest fruit you can taste, for although the kernel doe bring forth no other tree but the plaine stocke upon which the fruit was grafted, as thus, if the graft were put into a Crab-stocke, the kernel brings forth onely a Crab-tree, yet when you taste a perfect and delicate Apple, be assured both the stocke and graft were of the best choice, and so such kernels of best reckoning. When you have then a competent quantitie of such kernels, you shall:

ſhall take certaine large pots, in the faſhion of milke-boules, all full of hoales in the bottome, through which the raine and ſuperfluous moyſture may avoyde, and either in the monthes of *March* or *November* (for thoſe are the beſt ſeaſons) fill the pots three parts full, of the fineſt, blackeſt, and richeſt mould you can get, then lay your kernels upon the earth, about foure fingers one from another, ſo many as the veſſell can conveniently containe, and then with a ſive, ſift upon them other fine moulds almoſt three fingers thicke, and ſo let them reſt, filling ſo many pots or veſſells as ſhall ſerve to receive your quantitie of kernels of all ſorts. Now if any man deſire to know my reaſon why I deſire to ſet my kernels rather in veſſells then in beds of earth, my anſwer is, that I have often found it in mine experience, that the kernels of Apples, Peares, Quinces, and ſuch like, are ſuch a tender and dainty ſeede, that it is great oddes, but the wormes will devour and conſume them before they ſprout, who naturally delight in ſuch ſeedes, which theſe veſſells onely doe prevent: but to proceede.

After your kernels are ſprouted up, and growne to bee at leaſt ſeven or eight inches high, you ſhall then within your Nurſerie digge up a border about two foote and an halfe broad, more then a foote deepe, and of ſuch convenient length as may receive all your young plants, and having made the mould fine, and rich with Manure, you ſhall then with your whole hand gripe as much of the earth that is about the plant as you can conveniently hold, and ſo take both the plant and the mould out of the veſſell, and replant it in the new dreſt border: and you ſhall thus doe plant after plant, till you have ſet every one, and made them firme and faſt in the new mould: wherein you are to obſerve theſe two principles, firſt, that you place them at leaſt five foote one from another, and ſecondly, that ſuch kernels as you ſet in your veſſells in *March*, that you replant them in borders of earth in *November* following, and ſuch as you ſet in *November* to replant in *March* following,

following, and being so replanted, to suffer them to grow till they be able to beare grafts, during which time you shall diligently observe, that if any of them chance to put foorth any superfluous branches or cyons, which may hinder the growth of the body of the plant, that you carefully cut them away, that thereby it may be the sooner inabled to beare a graft: for it is ever to bee intended that whatsoever proceede from kernels are onely to bee preserved for stockes to graft on, and for no other purpose.

Now for the stones of Plumbs, and other stone fruit, you shall understand that they be of two kindes, one simple and of themselves, as the Rye-plumbe, Wheate-plumbe, Damson, Prune-plumbe, Horse-clogge, Cherry, and such like, so that from the kernels of them issue trees of like nature and goodnesse: the other compounded or grafted Plumbes, as the Abricot, Pescod, Peach, Damaske, Verdochyo, Emperiall, and such like, from whose kernels issue no other trees but such as the stockes were upon which they were grafted. Now, for the manner of setting the first, which are simple and uncompounded, you shall digge up a large bed of rich and good earth a month or more before *March* or *November*, and having made the mould as fine as is possible, you shall flat-wise thrust every stone, a foote one from another, more then three fingers into the mould, and then with a little small rake, made for the purpose, rake the bed over, and close up the holes, and so let them rest till they be of a yeares growth, at which time you shall replant them into severall borders, as you did your Apple-tree plants and others.

Now for the kernels of your compounded or grafted Plumbes, you shall both set them in beddes, and replant them into severall borders, in the same manner as you did the other kernels of Plumbes, onely you shall for the space of eight and forty houres before you set them, steepe them in new milke, forasmuch as the stones of them are more hard, and with greater difficultie open and sprout in

the earth, then any other ſtone whatſoever: and thus having furniſhed your Nurſery with all ſorts of fruits and ſtockes, you ſhall when they come to full age and bigneſſe graft them in ſuch order as ſhalbe hereafter declared.

CHAP. III.

Of the ſetting or planting of the Cyons or Branches of moſt ſorts of Fruit-trees.

AS you are to furniſh your nurſery with all ſorts of kernels and ſtones, for the breeding of ſtocks whereon to graft the daintieſt fruits you can compaſſe, ſo ſhall you alſo plant therein the cyons and branches of the beſt fruit trees: which cyons and branches doe bring forth the ſame fruit which the trees doe from whence they are taken, and by that meanes your nurſery ſhall ever afford you perfect trees, wherewith either to furniſh your owne grounds, or to pleaſure your neighbours. And herein by the way you ſhall underſtand that ſome trees are more fit to be ſet then to be ſowne, as namely, the Service-tree, the Medlar, the Filbert and ſuch like. Now for the Service-tree, hee is not at all to be grafted, but ſet in this wiſe: take of the baſtard cyons ſuch as be ſomewhat bigger then a mans thumbe, and cutting away the branches thereof ſet it in a fine looſe mould, at leaſt a foote deepe, and it will proſper exceedingly, yet the true nature of this tree is not to be removed, and therefore it is convenient that it be planted where it ſhould ever continue: in like manner to the Service-tree, ſo you ſhall plant the baſtard cyons of the Medlar-tree either in *March* or *October*, and at the wane of the Moone.

Now for the Filbert, or the large Haſel-nut, you ſhall take the ſmalleſt cyons or wands, ſuch as are not above two yeeres growth, being full of ſhort heavie twigs, and grow from the roote of the maine tree, and ſet them in a looſe

looſe mould, a foote deepe, without pruning or cutting away any of the branches, and they will proſper to your contentment. Now for all ſorts of Plumb-trees, Apple-trees, or other fruit-trees that are not grafted, if you take the young cyons which grow from the rootes, cleane from the rootes, and plant them either in the ſpring, or fall, in a freſh and fine mould, they will not onely proſper, but bring forth fruit of like nature and qualitie to the trees from whence they were taken.

Now for your grafted fruit, as namely, Apples, Plumbes, Cherries, Mulberries, Quinces, and ſuch like, the cyons alſo, and branches of them will take roote and bring forth fruit of the ſame kinde that the trees did from whence they were taken: but thoſe cyons or branches muſt ever bee choſen from the upper parts of the trees, betwixt the feaſt of *All-ſaints* and *Chriſtmas*, they muſt be bigger then a mans finger, ſmooth, ſtraight, and without twigges: you ſhall with a ſharpe Chiſſell cut them from the body or armes of the tree with ſuch care, that by no meanes you raiſe up the barke, and then with a little yellow waxe cover the place from whence you cut the cyon: then having digged and dunged the earth well where you intend to plant them, and made the mould eaſie, you ſhall with an Iron, as bigge as your plant, make a hoale a foote deepe or better, and then put in your cyon, and with it a few Oates, long ſteept in water, and ſo fixe it firme in the mould, and if after it beginneth to put forth, you perceive any young cyons to put forth from the roote thereof, you ſhall immediatly cut them off, and either caſt them away or plant them in other places, for to ſuffer them to grow may breede much hurt to the young trees. Now whereas theſe cyons thus planted are for the moſt part ſmall and weake, ſo that the ſmalleſt breath of winde doth ſhake and hurt their rootes, it ſhalbe good to pricke ſtrong ſtakes by them, to which, faſtning the young plant with a ſoft hay rope, it may the better be defended from ſtormes and tempeſts.

Next to these fruit-trees, you shall understand that your bush-trees, as Barberryes, Gooseberryes, or Feberryes, Raspberryes, and such like, will also grow upon cyons, without rootes, being cut from their maine rootes in *November*, and so planted in a new fresh mould. And here by the way I am to give you this note or caveat, that if at any time you finde any of these cyons which you have planted not to grow and flourish according to your desire, but that you finde a certaine mislike or consumption in the plant, you shall then immediatly with a sharpe knife cut the plant off slope-wise upward, about three fingers from the ground, and so let it rest till the next spring, at which time you shall behold new cyons issue from the roote, which will be without sickneſse or imperfection; and from the vertue of this experiment, I imagine the gardners of ancient time found out the meanes to get young cyons from olde Mulberry-trees, which they doe in this manner: Frst, you must take some of the greatest armes of the Mulberry-tree about the midst of *November*, and with a sharpe sawe to sawe them into bigge truncheons, about fifteene inches long, and then digging a trench in principall good earth, of such depth, that you may cover the truncheons, being set upon end, with Manure and fine mould, each truncheon being a foote one from another, and covered more then foure fingers above the wood, not fayling to water them whensoever need shall require, and to preserve them from weeds and filthinesse, within lesse then a yeares space you shall behold those truncheons to put forth young cyons, which as soone as they come to any growth and be twigged, then you may cut them from the stockes, and transplant them where you please, onely the truncheons you shall suffer to remaine still, and cherish them with fresh dung, and they will put forth many moe cyons, both to furnish your selfe and your friends. And thus much for the planting and setting of cyons or branches.

Of

CHAP. IIII.

Of the ordinary and accustomed manner of Grafting all sorts of Fruit-trees.

AS soone as your Nursery is thus amply furnished of all sorts of stockes, proceeding from kernels, and of all sorts of trees proceeding from cyons, branches or undergrowings, and that through strength of yeeres they are growne to sufficient abilitie to receive grafts, which is to be intended, that they must be at the least six or eight inches in compasse, for although lesse many times both doe and may receive grafts, yet they are full of debilitie and danger, and promise no assurance to the Worke-mans labour, you shall then begin to graft your Stockes with such Fruits as from Art and Experience are meet to bee conjoyned together, as thus: you shall graft Apples upon Apples, as the Pippin upon the great Costard, the Peare-maine upon the Ienetting, and the Apple-Iohn or blacke Annet upon the Pomewater or Crab-tree: to conclude, any Apple-stocke, Crab-tree, or Wilding, is good to graft Apples upon, but the best is best worthy. So for Peares, you shall graft them upon Peare-stockes, Quinces upon Quinces or Crab-trees, and not according to the opinion of the French-man, upon White-thorne or Willow, the Medlar upon the Service-tree, and the Service upon the Medlar, also Cherries upon Cherries, and Plumbes upon Plumbes, as the greater Abricots upon the lesser Abricots, the Peach, the Figge, or the Damson-tree; and to speake generally without wasting more Paper, or making a long circumstance to slender purpose, the Damson-tree is the onely principall best stocke whereupon to graft any kinde of Plumbe or stone-fruit whatsoever.

The mixing of Stocks and Grafts.

After you have both your Stockes ready, and know which

The choise of Grafts.

which grafts to joyne with which ſtockes, you ſhall then learne to cut and chuſe your Grafts in this manner: looke from what tree you deſire to take your grafts, you ſhall goe unto the very principall branches thereof, and looke up to the upper ends, and thoſe which you finde to bee fayreſt, ſmootheſt, and fulleſt of ſappe, having the little knots, buds, or eyes ſtanding cloſe and thicke together, are the beſt and moſt perfect, eſpecially if they growe upon the Eaſt ſide of the tree, whereon the Sunne firſt looketh; theſe you ſhall cut from the tree in ſuch ſort, that they may have at leaſt three fingers of the old wood joyning to the young branch, which you ſhall know both by the colour of the barke, as alſo by a little round ſeame which maketh as it were a diſtinction betwixt the ſeverall grouths. Now you ſhall ever, as neere as you can, chuſe your grafts from a young tree, and not from an old, and from the toppes of the principall branches, and not from the midſt of the tree, or any other ſuperfluous arme or cyon; now if after you have got your grafts, you have many dayes journeyes to carry them, you ſhall fould them in a few freſh mouldes, and binde them about with hay, and hay-ropes, and ſo carry them all day, and in the night bury them all over in the ground, and they will containe their goodneſſe for a long ſeaſon.

How to graft in the cleft.

Having thus prepared your Grafts, you ſhall then begin to graft, which worke you ſhall underſtand may bee done in every moneth of the yeere, except November and October, but the beſt is to beginne about Chriſtmas for all early and forward fruit, and for the other, to ſtay till March: now having all your Implements and Neceſſaries about you, fit for the Grafting, you ſhall firſt take your grafts, of what ſort ſoever they be, and having cut the neather ends of them round and ſmooth without raiſing of the barke, you ſhall then with a ſharpe knife, made in the proportion of a great pen-knife, ſlice downe each ſide of the grafts, from the ſeame or knot which parts the old wood from the new, even to the neather end, making it flat and thin

thin, chiefely in the loweſt part, having onely a regardfull eye unto the pith of the graft, which you may by no meanes cut or touch, and when you have thus trimmed a couple of grafts, for moe I doe by no meanes allow unto one ſtocke, although ſundry other skilfull workmen in this Art allow to the leaſt ſtocke two grafts, to the indifferent great three, and to the greateſt of all foure, yet I affirme two are ſufficiently enough for any ſtocke whatſoever, and albeit they are a little the longer in covering the head, yet after they have covered it, the tree proſpereth more in one yeare, then that which containeth foure grafts ſhall doe in two, becauſe they cannot have ſap enough to maintaine them, which is the reaſon that trees for want of proſperitie, grow crooked and deformed: but to my purpoſe. When you have made your grafts ready, you ſhall then take a fine thin ſawe, whoſe teeth ſhall be filed ſharpe and even, and with it (if the ſtocke be exceeding ſmall) cut the ſtocke round off within leſſe then a foote of the ground, but if the ſtocke be as bigge as a mans arme, then you may cut it off two or three foote from the ground, and ſo conſequently the bigger it is, the higher you may cut it, and the leſſer, the neerer unto the earth: as ſoone as you have ſawne off the upper part of the ſtocke, you ſhall then take a fine ſharpe chiſſell, ſomewhat broader then the ſtocke, and ſetting it even upon the midſt of the head of the ſtocke ſomewhat wide of the pith, then with a mallet of wood you ſhall ſtrike it in and cleave the ſtocke, at leaſt foure inches deepe, then putting in a fine little wedge of Iron, which may keepe open the cleft, you ſhall take one of your grafts and looke which ſide of it yon intend to place inward, and that ſide you ſhall cut much thinner then the outſide, with a moſt heedfull circumſpection that by no meanes you looſen or rayſe up the barke of the graft, chiefly on the outſide: then you ſhall take the graft, and wetting it in your mouth, place it in one ſide of the cleft of the ſtocke, and regard that the very knot or ſeame which goes about the graft, parting the olde wood from the new, doe reſt directly

rectly upon the head of the ſtocke, and that the out-ſide of the graft doe agree directly with the out-ſide of the ſtock, joyning barke unto barke, and ſap unto ſap, ſo even, ſo ſmooth, and ſo cloſe, that no Ioyners-worke may bee diſcerned to joyne more artificially: which done, upon the other ſide of the ſtocke, in the other cleft, you ſhall place your other Graft, with full as much care, diligence, and every other obſervation: when both your grafts are thus orderly and artificially placed, you ſhall then by ſetting the haft of your Chiſſell againſt the ſtocke, with all lenitie and gentleneſſe, draw forth your wedge, in ſuch ſort that you doe not diſplace or alter your grafts, and when your wedge is forth, you ſhall then looke upon your grafts, and if you perceive that the ſtocke doth pinch or ſquize them, which you may diſcerne both by the ſtraitneſſe and bending of the outmoſt barke, you ſhall then make a little wedge of ſome greene ſappy wood, and driving it into the cleft, eaſe your grafts, cutting that wedge cloſe to the ſtocke. When you have thus made both your grafts perfect, you ſhall then take the barke of either Apple-tree, Crab-tree or Willow-tree, and with that barke cover the head of the ſtocke ſo cloſe, that no wet, or other annoyance may get betwixt it and the ſtocke, then you ſhall take a convenient quantitie of clay, which indeed would be of a binding mingled earth, and tempering it well, either with moſſe or hay, lay it upon the barke, and daube all the head of the ſtock, even as low as the bottome of the grafts, more then an inch thicke, ſo firme, cloſe, and ſmooth as may be, which done, cover all that clay over with ſoft moſſe, and that moſſe with ſome ragges of woollen cloath, which being gently bound about with the inward barkes of Willow, or Oſyar, let the graft reſt to the pleaſure of the higheſt: and this is called grafting in the cleft.

Notes. Now there be certaine obſervations or caveats to bee reſpected in grafting, which I may not neglect: as firſt, in trimming and preparing your grafts for the ſtocke: if the grafts be either of Cherry, or Plumbe, you ſhall not

cut

cut them so thinne as the grafts of Apples, Quinces, or Medlars, because they have a much larger and rounder pith, which by no meanes must be toucht, but fortified and preserved, onely to the neather end you may cut them as thin as is possible, the pith onely preserved.

Secondly, you shall into your greatest stockes put your greatest grafts, and into your least, the least, that there may be an equall strength and conformitie in their conjunction.

Thirdly, if at any time you be inforced to graft upon an olde tree, that is great and large, then you shall not graft into the body of that tree, because it is impossible to keep it from putrifaction and rotting before the grafts can cover the head, but you shall choose out some of the principall armes or branches, which are much more slender, and graft them, as is before shewed, omitting not daily to cut away all cyons, armes, branches, or superfluous sprigs which shall grow under those branches which you have newly grafted: but if there be no branch, small or tender enough to graft in, then you shall cut away all the maine branches from the stocke, and covering the head with clay and mosse let it rest, and within three or foure yeares it will put forth new cyons, which will be fit to graft upon.

Fourthly, if when you either sawe off the top of your stocke, or else cleave the head, you either raise up the barke or cleave the stocke too deepe, you shall then saw the stocke againe, with a little more carefulnesse, so much lower as your first errour had committed a fault.

Fiftly, you shall from time to time look to the binding of the heads of your stocks, insomuch, that if either the clay do shrinke away, or the other coverings doe loosen, by which defects, ayre, or wet, may get into the incision, you shall presently with all speed amend and repaire it.

Lastly, if you graft in any open place where cattell doe graze, you shall not then forget as soone as you have finisht your worke, to bush or hedge in your graft, that it may be defended from any such negligent annoyance. And thus

much for this ordinary manner of grafting, which although it bee generall and publike to moſt men that know anything in this art, yet is it not inferiour, but the principalleſt and ſureſt of all other.

CHAP. V.

Of divers other wayes of grafting, their uſes and purpoſes.

ALthough for certainty, uſe, and commodity, the manner of grafting already preſcribed is of ſufficiencie enough to ſatiſfie any conſtant or reaſonable underſtanding, yet for novelty ſake, to which our Nation is infinitly addicted, and to ſatiſfie the curious, who thinke their judgements diſparaged if they heare any authorized traveller talke of the things which they have not practiſed. I will proceed to ſome other more quaint manners of grafting, and the rather becauſe they are not altogether unneceſſary, having both certainty in the worke, pleaſure in the uſe, and benefit in the ſerious imploying of thoſe howers which elſe might challenge the title of idleneſſe, beſides they are very well agreeing with the ſoyles and fruits of this Empire of *Great Britaine*, and the underſtandings of the people, for whoſe ſervice or benefit, I onely undergoe my travell.

You ſhall underſtand therefore, that there is another way to graft, which is called grafting betweene the barke and tree, and it is to bee put in uſe about the latter end of *February*, at ſuch time as the ſappe beginnes to enter into the tres: and the ſtockes moſt fit for this manner of graſting, are thoſe which are oldeſt and greateſt, whoſe graine being rough and uneven, either through ſhaking or twinding, it is a thing almoſt impoſſible to make it cleave in any good faſhion, ſo that in ſuch a caſe it is meete that the

the grafter exercise this way of grafting betwixt the barke and the tree, the manner whereof is thus:

Grafting betweene the barke and tree.

First, you shall dresse your grafts in such sort as was before described when you grafted in the cleft, onely they shall not be so long from the knot or seame downeward by an inch or more, neither so thicke, but as thinne as may be, the pith onely preserved, and at the neather end of all you shall cut away the barke on both sides, making that end smaller and narrower then it is at the joynt or seame, then sawing off the head of the stocke, you shall with a sharpe knife pare the head round about, smooth and plaine, making the barke so even as may be, that the barke of your grafts and it may joyne like one body, then take a fine narrow chisell, not exceeding sharpe, but somewhat rebated, and thrust it hard downe betwixt the barke and the tree, somewhat more then two inches, according to the just length of your graft, and then gently thrust the graft downe into the same place, even close unto the joynt, having great care that the joynt rest firme and constant upon the head of the stocke, and thus you shall put into one stocke not above three grafts at the most, however either other mens practice, or your owne reading doe perswade you to the contrary. After your grafts are fixt and placed, you shall then cover the head with barke, clay, and mosse, as hath beene formerly shewed: also you shall fasten about it some bushes of thorne, or sharpe whinnes, which may defend and keepe it from the annoyance of Pye-annats, and such like great birds.

Grafting in the scutchion.

There is another way of grafting, which is called grafting in the scutchion, which howsoever it is esteemed, yet is it troublesome, incertaine, and to small purpose: the season for it is in Summer, from *May* till *August*, at what time trees are fullest of sappe, and fullest of leaves, and the manner is thus: take the highest and the principallest branches of the toppe of the tree you would have grafted, and without cutting it from the old wood, choose the best eye and budding place of the cyon, then take another such

like eye or budde, being great and full, and first cut off the leafe hard by the budde, then hollow it with your knife the length of a quarter of an inch beneath the budde, round about the barke, close to the sap, both above and below, then slit it downe twice so much wide of the budde; and then with a small sharpe chisell raise up the scutchion, with not onely the budde in the midst, but even all the sap likewise, wherein you shall first raise that side which is next you, and then taking the scutchion betweene your fingers, raise it gently up without breaking or bruising, and in taking it off, hold it hard unto the wood, to the end, the sap of the budde may abide in the scutchion, for if it depart from the barke, and cleave to the wood, your labour is lost, this done, you shall take another like cyon, and having taken off the barke from it, place it in the others place, and in taking off this barke, you must be carefull that you cut not the wood, but the barke onely, and this done, you shall cover it all over with redde waxe, or some such glutenous matter; as for the binding of it with hempe and such trumpery, it is utterly disalowed of all good grafters: this manner of grafting may be put in practice upon all manner of cyons, from the bignesse of a mans little finger, to the bignesse of a slender arme.

Grafting with the leafe.

Not much unlike unto this, is the grafting with the Leafe, and of like worth, the art whereof is thus: any time betwixt the midst of *May*, untill the midst of *September*, you shall chuse, from the top of the Sun-side of the tree, the most principall young cyon you can see, whose barke is smoothest, whose leaves are greatest, and whose sappe is fullest, then cutting it from the tree, note the principall leafe thereof, and cut away from it all the wood more then about an inch of each side of the leafe, then cutting away the undermost part of the barke with your knife, take peece meale from the barke all the wood and sappe, save onely that little part of woode and sappe which feedeth the leafe, which in any wise must be left-behind, so that the graft will carry this figure:

Then

Then go to the body, arme, or branch of that tree which you intend to graft, which is to be presuppoſed, muſt ever have a ſmooth and tender barke, and with a very ſharpe knife ſlit the barke, two ſlits at leaſt, two inches long a peece, and about halfe an inch or more diſtance betweene the two ſlits: then make another ſlit croſſe-wiſe overthwart, from long ſlit to long ſlit, the figure whereof will be thus:

Then with your knife raiſe the barke gently from the

tree, without breaking, cracking, or bruising: then take your graft, and putting it under the barke, lay it flat unto the sappe of the tree, so as that little sapp which is left in the leafe, may without impediment cleave to the sappe of the tree, then lay downe the barke close againe and cover the graft, and with a little untwound Hempe, or a soft woollen list, binde downe the barke close to the graft, and then cover all the Incisions you have made with greene waxe: by this manner of grafting you may have upon one tree sundry fruits, as from one Apple-tree, both Pippins, Peare-maines, Russettings, and such like; nay, you may have upon one tree ripe fruit all Summer long, as Jennettings from one branch, Cislings from another, Wibournes from another, Costards and Queene-Apples from others, and Pippins and Russettings from others, which bringeth both delight to the Eye, and admiration to the sense: and yet I would not have you imagine, that this kinde of grafting doeth onely worke this effect, for as before I shewed you, if you graft in the cleft, (which is the safest way of all grafting) sundry fruites upon sundry armes or boughes, you shall likewise have proceeding from them sundry sorts of fruits, as either Apples, Plumbes, Peares, or any other kinde, according to your composition and industry; as at this day wee may daily see in many great mens Orchards.

Grafting on the tops of trees.

There is yet another manner of grafting, and it is of all other especially used much in *Italie*, and yet not any thing disagreeable with our Climate, and that is to graft on the small cyons which are on the toppes of fruit-trees, surely an experience that carrieth in it both difficultie and wonder, yet being put to approbation, is no lesse certaine then any of the other, the manner whereof is thus: you shall first after you have chosen such and so many grafts as you doe intend to graft, and trim'd them in the same manner as you have beene taught formerly for grafting within the cleft, you shall then mount up into the top of the tree, upon which you meane to graft, and there make choise of the highest

higheſt and moſt principall cyons (being cleane barkt and round) that you can preceive to growe from the tree, then laying the graft, and the cyon upon which you are to graft, together, ſee that they be both of one bigneſſe and roundneſſe: then with your grafting knife cut the cyon off betweene the old wood and the new, and cleave it downe an inch and a halfe, or two inches at the moſt: then put in your graft (which graft muſt not bee cut thinner on one ſide, then on the other, but all of one thickeneſſe) and when it is in, ſee that the bark of the graft both above and below, that is, upon both ſides, doe ioyne cloſe, even, and firme with the barke of the branch or cyon, and then by folding a little ſoft tow about it, keepe them cloſe together, whilſt with clay, moſſe, and the in-moſt barke of Oſiars you lappe them about to defend them from ayre, winde, and tempeſts. And herein you ſhall obſerve to make your graft as ſhort as may be for the ſhorteſt are beſt, as the graft which hath not above two or three knots or buds, and no more. You may, if you pleaſe, with this manner of grafting graft upon every ſeverall cyon, a ſeverall fruit, and ſo have from one tree many fruits, as in caſe of grafting with the leafe, and that with much more ſpeed, by as much as a well-grown graft is more forward and able, then a weake tender leafe. And in theſe ſeverall wayes already declared, conſiſteth the whole Art and ſubſtance of Grafting: from whence albeit many curious braines may, from prevaricating tricks, beget ſhowes of other faſhions, yet when true judgement ſhall looke upon their workes, he ſhall ever find ſome one of theſe Experiments the ground and ſubſtance of all their labours, without which they are able to doe nothing that ſhall turne to an aſſured commoditie.

Now when you have made your ſelfe perfect in the ſowing, ſetting, planting and grafting of trees, you ſhall then learne to know the effects, wonders, and ſtrange iſſues which doe proceed from many quaint motions and helpes in Grafting, as thus: If you will have Peaches, Cherries, Apples, Quinces, Medlars, Damſons, or any Plumbe-

The effects of grafting.

Plumbe whatsoever, to ripen early, as at the least two moneths before the ordinary time, and to continue at least a moneth longer then the accustomed course, you shall then graft them upon a Mulberry stock: and if you will have the fruit to taste like spice, with a certaine delicate perfume, you shall boile honey, the powder of Cloves and Soaxe together, and being cold annoynt the grafts therewith before you put them into the cleft; if you graft Apples, Peares, or any fruit upon a Fig-tree stocke, they will beare fruit without blooming: if you take an Apple graft, & a Peare graft of like bignesse, and having cloven them, joyne them as one bodie in grafting, the fruit they bring forth will bee halfe Apple, and halfe Peare, and so likewise of all other fruits which are of contrary tastes and natures: if you graft any fruit-tree, or other tree upon the Holly, or upon the Cypresse, they will be greene, and keepe their leaves the whole yeere, albeit the Winter be never so bitter.

If you graft either Peach, Plumbe, or any stone-fruit upon a Willow stocke, the fruit which commeth of them will be without stones.

If you will change the colour of any fruit, you shall boare a hole slope-wise with a large auger into the body of the Tree, even unto the pith, and then if you will have the fruit yealow, you shall fill the hole with Saffron dissolved in water: if you will have it red, then with Sanders, & of any other colour you please, and then stop the hole up close, and cover it with red or yellow wax: also if you mix the colour with any spice or perfume, the fruit will take a relish or taste of the same: many other such like conceits and experiments are practised amongst men of this Art, but sith they more concerne the curious then the wise, I am not so carefull to bestow my labour in giving more substantiall satisfaction, knowing curiositie loves that best, which proceedes from their most paine, and am content to referre their knowledge to the searching of those Bookes which have onely strangenesse for their subject, resolved that this I have written is fully sufficient for the plaine English Husbandman.

Of

CHAP. VI.

Of the replanting of Trees, and furnishing the Orchard.

AS soone as your seeds, or sets, have brought forth plants, those plants, through time, made able, and have received grafts, and those grafts have covered the heads of the stocks & put forth goodly branches, you shall then take them up and replant them, (because the sooner it is done, the better it is done) in those severall places of your Orchard which before is appointed, and is intended to be prepared, both by dunging, digging, and every orderly labour, to receive every severall fruit. And herein you shall understand, that as the best times for grafting are every month (except *October* and *November*) and at the change of the moone, so the best times for replanting, are *November* and *March* onely, unlesse the ground be cold and moist, and then *January* or *February* must be the soonest alwaies, excepted that you doe not replant in the time of frost, for that is most unwholsome.

Now when you will take up your trees which you intend to replant in your Orchard, you shall first with a spade bare all the maine branches of the roote, and so by degrees digge and loosen the earth from the roote, in such sort, that you may with your owne strength raise the young tree from the ground, which done, you shall not, according to the fashion of *France*, dismember, or disroabe the tree of his beauties, that is to say, to cut off all his upper branches and armes, but you shall diligently preserve them: for I have seene a tree thus replanted after the fall of the leafe to bring forth fruit in the Summer following: but if the tree you replant be old, then it is good to cut off the maine branches within a foote of the stocke, lest the

The taking up of trees.

ſappe running upward, and ſo forſaking the root too ſuddenly doe kill the whole tree.

When you have taken your tree up, you ſhall obſerve how, and in what manner, it ſtood, that is, which ſide was upon the South, and received moſt comfort from the Sunne, and which ſide was from it and received moſt ſhadow and bleakneſſe, and in the ſame ſort as it then ſtood, ſo ſhall you replant it againe: this done, you ſhall with a ſharpe cutting-knife, cut off all the maine rootes, within halfe a foote of the tree, onely the ſmall thriddes or twiſt-rootes you ſhall not cut at all: then bringing the plant into your Orchard, you ſhall make a round hole in that place where you intend to ſet your tree (the rankes, manner, diſtance and forme whereof hath beene already declared, in the firſt Chapter:) and this hole ſhalbe at leaſt foure foote overthwart every way, and at leaſt two foote deepe, then ſhall you fill up the hole againe, fifteene inches deepe, with the fineſt blacke mould, tempered with Oxe dung, that you can get, ſo that then the hole ſhalbe but nine inches deepe, then you ſhall take your tree and place it upon that earth, having care to open every ſeverall branch and thrid of the root, and ſo to place them that they may all looke downe into the earth, and not any of them to look back and turne upward: then ſhall you take of the earth from whence your tree was taken, and tempering it with a fourth part of Oxe dung, and ſlekt Sope-aſhes (for the killing of wormes) cover all the roote of your tree firmely and ſtrongly: then with greene ſoddes, cut and joyned artificially together, ſo ſodde the place that the hole may hardly be diſcerned. Laſtly, take a ſtrong ſtake, and driving it hard into the ground neere unto the new planted tree, with either a ſoft hay rope, the broad barke of Willow, or ſome ſuch like unfretting band, tye the tree to the ſtake, and it will defend it from the rage of winde and tempeſts, which ſhould they but ſhake or trouble the roote, being new planted, it were enough to confound and ſpoyle the tree for ever.

Now, although I have under the title and demonſtra-

tion of replanting one tree given you a generall instruction for the replanting of all trees whatsoever, yet forasmuch as some are not of that strength and hardnes to indure so much as some others will, therfore you shall take these considerations by the way, to fortifie your knowledge with.

First, you shall understand that all your dainty and tender grafted Plumbes, and fruits, as Abricots, Peaches, Damaske-Plumbes, Verdochyos, Pescods, Emperialls, and divers such like, together with Orrenges, Cytrons, Almonds, Olives, and others, which indeede are not familiar with our soyles, as being neerer neighbours to the Sunne, doe delight in a warme, fat, earth, being somewhat sandy, or such a clay whose coldnesse by Manure is corrected, and therefore here with us in the replanting of them, you cannot bestow too much cost upon the mould: as for the Damson, and all our naturall Englisb Plumbes, they love a fat, cold, earth, so that in the replanting of them, if you shall lay too much dung unto the root, you shall through the abundant heate, doe great hurt unto the tree. The Cherry delighteth in any clay, so that upon such soyle you may use lesse Manure, but upon the contrary you cannot lay too much. The Medlar esteemeth all earths alike, and therefore whether it be Manured or no, it skilles not, sunne and shadow, wet and drinesse, being all of one force or efficacie. The Peare and Apple-tree delights in a strong mixt soyle, and therefore indureth Manure kindly, so doth also the Quince and Warden: Lastly the Filbert, the Hasel, and the Chesnut, love cold, leane, moist, and sandy earths, insomuch that there is no greater enemie unto them then a rich soyle: so that in replanting of them you must ever seeke rather to correct then increase fertility.

You shall also understand that all such fruit trees as you doe plant against the walles of your Orchard (of which I have spoken already, & deciphered out their places) you shall not suffer to grow as of themselves, round, and from the wall, but at the times of pruning and dressing of them (which is ever at the begining of the spring and immedi-

ately after the fall) you shall as it were plash them, and spread them against the wall, foulding the armes in loopes of leather, and nayling them unto the wall: and to that end you shall place them of such a fit distance one from another, that they may at pleasure spread and mount, without interruption: the profit whereof is at this day seene almost in every great mans Orchard: and although I have but onely appointed unto the wall the most quaint fruits of forraine nations; yet there is no fruit of our owne, but if it be so ordered it will prosper and bring forth his fruit better and in greater abundance. And thus much for the replanting of trees and furnishing of a well proportioned Orchard.

CHAP. VII.

Of the Dressing, Dunging, Proyning, and Preserving of Trees.

SIth after all the labour spent of ingendring by seede, of fortifying and inabling by planting, and of multiplying by grafting, it is to little or no purpose if the trees bee not maintained and preserved by dressing, dunging, and proyning, I will therefore in this place shew you what belongs to that office or duty, and first, for the dressing of trees: you shall understand, that it containeth all whatsoever is meet for the good estate of the tree, as first, after your tree is planted, or replanted, if the season shall fall out hot, dry, and parching, insomuch, that the moisture of the earth is sucked out by the atraction of the Sunne, and so the tree wanteth the nutriment of moisture, in this case you shall not omit every morning before the rising of the Sun, and every evening after the set of the Sunne, with a great watering-pot filled with water, to water and bathe the roots of the trees, if they be yong trees, and newly planted, or replanted, but not otherwise: for

if

if the trees be old, and of long growth, then you shall save that labour, and onely to such old trees you shall about the midst of *November*, with a spade, digge away the earth from the upper part of the rootes, and lay them bare untill it be mid *March*, and then mingling such earth as is most agreeable with the fruit and Oxe-dung and Sope-ashes together, so cover them againe, and tread the earth close about them: as for the uncovering of your trees in Summer I doe not hold it good, because the reflection of the Sunne is somewhat too violent and dryeth the root, from whence at that time the sappe naturally is gone: you shall also every Spring and Fall of the leafe, cleanse your fruit trees from mosse, which proceeding from a cold a cankerous moisture, breedeth dislike, and barrainnesse in trees: this mosse you must take off with the backe of an old knife, and leave the barke smooth, plaine, and unraced: also if you shall dung such trees with the dung of Swine, it is a ready way to destroy the mosse.

Proyning of Trees.

After you have drest and trimmed your trees, you shall then proyne them, which is to cut away all those superfluous branches, armes, or cyons, which being either barraine, bruised, or misplaced, doe like droanes, steale away that nutriment which should maintaine the better deserving sinewes, and you shall understand that the best time for proyning of trees, is in *March* and *April*, at which time the sappe ascending upward, causeth the trees to budde: the branches you shall cut away, are all such as shall grow out of the stocke underneath the place grafted, or all such as by the shaking of tempests shall grow in a disorderly and ill fashioned crookednesse, or any other, that out of a well tempered judgement shall seeme superfluous and burdensome to the stocke from whence they spring, also such as have by disorder beene broken, or maimed, and all these you shall cut away with a hooke knife, close by the tree, unlesse you have occasion by some misfortune to cut away some of the maine and great armes of the tree, and then you shall not use your knife for feare of tearing the barke,

but taking your sawe you shall sawe off those great armes close by the tree, neither shall you sawe them off downeward but upward, lest the waight of the arme breake the barke from the body: And herein you shall also understand that for as much as the mischances which beget these dismembrings doe happen at the latter end of Summer, in the gathering of the fruit, and that it is not fit such maimed and broken boughes hang upon the tree till the Spring, therefore you shall cut them off in the Winter time, but not close to the tree by almost a foote, and so letting them rest untill the spring, at that time cut them off close by the tree. Now if you find the superfluitie of branches which annoy your trees to be onely small cyons, springing from the rootes of the trees, as it often hapneth with all sorts of Plumbe-trees, Cherry-trees, Nut-trees, and such like, then you shall in the winter, bare the roots of those trees, and cut off those cyons close by the roote: but if your trees be brousèd or eaten by tame-Deere, Goates, Sheepe, Kine, Oxen, or such like, then there is no helpe for such a misfortune but onely to cut off the whole head and graft the stocke anew.

Of Barke-bound.

Next to the proyning of trees, is the preserving, physicking, and curing of the diseases of trees, to which they are subject as well as our naturall bodies: and first of all, there is a disease called Barke-bound, which is when the barke, through a mislike and leperous drinesse, bindeth in the tree with such straightnesse that the sappe being denied passage the body growes into a consumption: it is in nature like unto that disease which in beasts is called hide-bound, and the cure is thus: at the beginning of *March* take a sharpe knife, and from the toppe of the body of the tree, to the very roote, draw downe certaine slits, or incisions, cleane through the barke, unto the very sappe of the tree, round about the tree, and then with the backe of your knife, open those slits and annoint them all through with Tarre, and in short space it will give liberty unto the tree to encrease and grow: this disease commeth by the rubbing of cattell against the tree, especially Swine, who are very poison unto al plants.

There

There is another diſeaſe in fruit-trees, called the Gall, and it eateth and conſumeth the barke quite away, and ſo in time kills the tree: the cure is to cut and open the barke which you ſee infected, and with a chiſſell to take away all that is foule and putrified, and then to clappe Oxe dunge upon the place, and it will helpe it, and this muſt bee done ever in winter. Of the Gall,

The Canker in fruit trees is the conſumption both of the barke and the body, and it commeth either by the dropping of trees one upon another, or elſe when ſome hollow places of the tree retaine ſome raine water in them, which fretting through the barke, poyſoneth the tree: the cure is to cut away all ſuch boughes as by dropping breed the evill, and if the hollow places cannot be ſmooth and made even, then to ſtoppe them with clay, waxe, and ſope-aſhes mixt rogether. Of the Canker.

If the barkes of your trees be eaten with wormes, which you ſhall perceive by the ſwelling of the barke, you ſhall then open the barke and lay there-upon ſwines dung, ſage, and lime beaten together, and bound with a cloath faſt to the tree, and it will cure it: or waſh the tree with cowe-piſſe and vinegar and it will helpe it. Of wormeeaten barkes.

If your young trees be troubled with Piſmiers, or Snailes, which are very noyſome unto them, you ſhall take unſleckt lime and ſope-aſhes and mingling them with wine-lees, ſpread it all about the roote of the trees ſo infected, and annoint the body of the tree likewiſe therewith, and it will not onely deſtroy them but give comfort to the tree: the ſoote of a chimney or Oake ſaw-duſt ſpread about the roote will doe the ſame. Of Piſmiers and Snailes.

If Caterpiliers doe annoy your young trees, who are great devourers of the leaves and young buddes, and ſpoylers of the barke, you ſhall, if it bee in the ſummer time, make a very ſtrong brine of water and ſalt, and either with a garden pumpe, placed in a tubbe, or with ſquirts which have many hoales, you ſhall every ſecond day water and waſh your trees, and it will deſtroy them, becauſe Of Caterpillers, and Earewiggs.

the

the Caterpiller naturally cannot indure moisture, but if nevertheleſſe you ſee they doe continue ſtill upon your trees in Winter, then you ſhall when the leaves are fallen away, take dankiſh ſtraw, and ſetting it on fire, ſmeare and burne them from the tree, and ſhall you hardly ever be troubled with them againe upon the ſame trees: roules of hay laid on the trees, will gather up Earewigs and kill them.

Of the barrenneſſe of Trees.

If your trees bee barren, and albeit they flouriſh and ſpread their leaves bravely, yet bring foorth no fruit at all, it is a great ſickneſſe, and the worſt of all other: therefore you ſhall underſtand it proceedeth of two cauſes: firſt, of too much fertilitie, and fatneſſe of the ground, which cauſeth the leafe to put forth and flouriſh in ſuch unnaturall abundance, that all ſuch ſappe and nutriment as ſhould knit and bring forth fruit, turnes onely unto leafe, cyons, and unprofitable branches, which you ſhall perceive both by the abundance of the leaves, and by the colour alſo, which will be of a more blacker and deeper greene, and of much larger proportion then thoſe which have but their naturall and proper rights: and the cure thereof is to take away the earth from the root of ſuch trees, and fill up the place againe with other earth, which is of a much leaner ſubſtance: but if your tree have no ſuch infirmitie of fatneſſe, but beareth his leaves and branches in good order, and of right colour, and yet notwithſtanding is barraine, and bringeth forth little or no fruit, then that diſeaſe ſpringeth from ſome naturall defect in the tree, and the cure thereof is thus: firſt, you ſhall unbare the root of the tree, and then noting which is the greateſt and principalleſt branch of all the root, you ſhall with a great wimble boare a hole into that root, and then drive a pinne of old drie Aſhe into the ſame, (for Oake is not altogether ſo good) and then cutting the pinne off cloſe by the root, cover all the head of the pinne with yellow waxe, and then lay the mould upon the root of the tree againe, and tread it hard and firmely downe, and there is no doubt but the tree will beare the yeere following: In *France* they uſe for this infirmitie to boare a hole

a hole in the body of the tree slope-wise, somewhat past the heart, and to fill up the hole with life honey and Rose-water mixt together, and incorporated for at least xxiiij. houres, and then to stop the hole with a pinne of the owne wood: also if you wash the rootes of your trees in the drane water which runneth from your Barley when you steepe it for Malt, it will cure this disease of barrennesse.

If the fruit which is upon your trees be of a bitter and sootie taste, to make it more pleasant and sweet, you shall wash your tree all over with Swines dung and water mixt together, and to the rootes of the trees you shall lay earth and Swines dung mixt together, which must be done in the month of *Ianuary* and *February* onely, and it will make the fruit taste pleasantly. And thus much for the dressing and preserving of trees. Of the bitternesse of Fruit.

CHAP. VIII.

Of the Vine, and of his ordering.

FOrasmuch as the nature, temperature, and clymate of our soyle, is not so truely proper and agreeing with the Vine as that of *France*, *Italy*, *Spayne*, and such like, and sith we have it more for delight, pleasure, and prospect, then for any peculiar profit, I will not undertake *Mounsieur Lybaults* painefull labour, in discribing every curious perfection or defect that belongs thereunto, as if it were the onely jewell and commodity of our kingdome, but onely write so much as is fitting for our knowledge, touching the maintenance, increase, and preservation thereof, in our Orchards, Gardens, and other places of recreation.

First, then to speake of the planting or setting of the Vine, your greatest diligence must be, to seeke out the best plants, and if that which is most strange, rare, great, and pleasant be the best, then is that grape which is called Of planting or setting the Vine.

the Muſcadine, or Sacke grape, the beſt, and have their beginning either from *Spaine*, the *Canary* Ilands, or ſuch like places: next to them is the French grape, of which there be many kindes, the beſt whereof is the grape of *Orleance*, the next the grape of *Gaſcoine*, the next of *Burdeaux*, and the worſt of *Rochell*, and not any of theſe but by induſtry will proſper in our Engliſh gardens: when therefore you chuſe you plants, you ſhall chuſe ſuch of the young cyons as ſpringing from the old wood, you may in the cutting cut at leaſt a joynt or two of old wood with the young: for the old will take ſooneſt, and this old wood muſt be at leaſt ſeaven or eight inches long, and the young cyon almoſt a yard, and the thicker and cloſer the joynts of the young cyon are, ſo much the better they are: and the fit time for cutting and gatherſing theſe ſets are in mid *Ianuary*, then having prepared, digged, and dunged your earth the winter before, you ſhall at the latter end of *Ianuary* take two of theſe ſets, or plants, placing them according to this figure:

And

And lay them in the earth slope-wise, at least a foote deepe, leaving out of the earth, uncovered, not above foure or five joynts, at the most, and then cover them with good earth firmely, closely, and strongly, having regard to raise those cyons which are without the earth directly upward, observing after they be set, once in a month to weede them, and keepe them as cleane as is possible: for nothing is more noysome unto them then the suffocating of weeds: also you shall not suffer the mould to grow hard or bind about the rootes, but with a small spade once in a fortnight to looſen and breake the earth, because their rootes are so tender that the least straitning doth strangle and confound them. If the season doe grow dry, you may use to water them, but not in such sort as you water other plants, which is to sprinkle water round about the earth of the rootes, but you shall with a round Iron made for the purpose, somewhat bigger then a mans finger, make certaine holes into the earth, close upon the roote of the Vine, and powre therein either water, the dregs of strong-Ale, or lees of Wine, or if you will you may mixe with the lees of Wine either Goates-milke, or Cowes-milke, and powre it into the hoales, and it will nouriſh the Vine exceedingly, and not the Vine onely, but all sorts of dainty grafted Plumbs, especially Peaches.

Now for proyning the Vine, you shall understand that it is ever to bee done after the fall of the leafe, when the sappe is descended downeward: for if you shall proyne, or cut him either in the spring, or when the sappe is aloft, it will bleede so exceedingly, that with great difficultie you shall save the body of the tree from dying: and in proyning of the Vine you shall observe two things, the first, that you cut away all superfluous cyons and branches, both above and below, which either grow disorderly above, or fruitlesſely below, and in cutting them you shall observe, neither to cut the old wood with the young cyon, nor to leave above one head or leader upon one branch: secondly, you shall in proyning, plash and spread the Vine thinly

Of proyning the Vine.

thinnely against the wall, giving every seuerall branch and cyons his place, and passage, and not suffer it to grow loosely, rudely, or like a wild thorne, out of all decencie and proportion: for you must understand that your Grapes doe grow ever upon the youngest cyons, and if of them you shall preserve too many, questionlesse, for want of nourishment they will lose their vertue, and you your profit. Now if your Vine be a very old Vine, and that his fruit doth decay, either in quantitie or proportion; if then you finde he have any young cyons which spring from his root, then, when you proyne him, you shall cut away all the old stocke, within lesse then a handfull of the young cyons, and make them the leaders, who will prosper and continue in perfection a long time after, especially if you trim the rootes with fresh earth, and fresh dung. Againe, if you be carefull to looke unto your Vine, you shall perceive close by every bunch of grapes certaine small thridde-like cyons, which resemble twound wyars, curling and turning in many rings, these also take from the grapes very much nutriment, so that it shall be a labour very well imployed to cut them away as you perceive them.

Experiments of the Vine.

Now from the Vine there is gathered sundry experiments, as to have it taste more pleasant then the true nature of the grape, and to smell in the mouth odoriferously, or as if it were perfumed, which may be done in this sort: Take Damaske-rose-water, and boyle therein the powder of Cloaves, Cynamon, three graines of Amber, and one of Muske, and when it is come to bee somewhat thicke, take a round goudge and make a hole in the maine stocke of the Vine, full as deepe as the heart thereof, and then put therein this medicine, then stopping the hole with Cypresse, or Iuniper, lay greene-wax thereupon, and bind a linnen cloath about it, and the next grapes which shall spring from that Vine, will taste as if they were preserved or perfumed.

If you will have grapes without stones, you shall take your plants and plant the small ends downeward and bee assured your desire is attained.

The

The Vine naturally of himselfe doth not bring forth fruit till it have beene three yeares planted: but if evening and morning for the first moneth you will bath his roote with Goats-milke or Cowes-milke, it will beare fruit the first yeare of his planting. Lastly, you may if you please graft one Vine upon another, as the sweet upon the sower, as the Muskadine grape, or greeke, upon the Rochell or Burdeaux, the Spanish, or Iland grape, on the Gascoyne, and the Orleance upon any at all: and these compositions are the best, and bring forth both the greatest and pleasantest grapes: therefore whensoever you will graft one grape upon another, you shall doe it in the beginning of *January*, in this sort: first, after you have chosen and trimmed your grafts, which in all sorts must bee like the grafts of other fruits, then with a sharpe knife, you shall cleaue the head of the Vine, as you doe other stockes and then put in your graft, or cyon, being made as thinne as may be, and see that the barkes and sappes joyne even and close together, then clay it, mosse it, and cover it, as hath beene before declared.

The medicining of the Vine.

If your Vine grow too ranke and thicke of leaves, so that the sappe doth waste it selfe in them, and you thereby lose the profit of the fruit, you shall then bare all the rootes of the Vine, and cast away the earth, filling up the place againe with sand and ashes mingled together: but if the Vine be naturally of it selfe barraine, then with a goudge you shall make a hole halfe way through the maine body of the Vine, and drive into the hole a round pible stone, which although it goe straitly in, yet it may not fill up the hole, but that the sicke humour of the Vine may passe thorow thereat: then cover the roote with rich earth, and Oxe dung mixt together, and once a day for a moneth water it with old pisse, or urine of a man, and it will make the tree fruitfull: if the Vine bee troubled with Wormes, Snailes, Ants, Earewigges, or such like, you shall morning and evening sprinckle it over with cowes-pisse and vineger mixt together & it will helpe it: & thus much for ordering the Vine.

CHAP. IX.

The Office of the Fruiterer, or the Gatherer, and Keeper of Fruit.

AFter you have planted every severall quarter, ally, and border within your Orchard, with every severall fruit proper unto his place, and that you have placed them in that orderly and comely equipage which may give most delight to the eye, profit to the tree, and commendations to the workeman, (according to the forme and order prescribed in the first Chapter) and that now the blessing of the highest, time, and your endeavours hath brought forth the harvest and recompence of your travell, so that you behold the long-expected fruit hang upon the trees, as it were in their ripenesse, wooing you to plucke, taste, and to deliver them from the wombs of their parents, it is necessary then that you learne the true office of the Fruiterer, who is in due season and time to gather those fruits which God hath sent him: for as in the husbanding of our graine if the Husbandman bee never so carefull, or skilfull, in ploughing, dunging, sowing, weeding and preserving his crop, yet in the time of harvest bee negligent, neither regarding the strength or ripenesse thereof, or in the leading and mowing respects not whether it be wet or dry, doth in that moments space loose the wages of his whole yeeres travell, getting but durt from durt, and losse from his negligence: so in like case holds it with all other fruits, if a man with never so great care and cost procure, yet if he be irrespective in the gathering, all his former businesse is vaine and to no purpose; and therefore I hold nothing more necessary then the relation of this office of the Fruiterer, which is the consummation and onely hope of our cost, and diligence, teaching us to gather wisely what we have planted warily,

warily, and to eat with contentment what we have preserved with care.

Know then, that of all Fruits (for the most part) the Cherry is the sobnest ripe, as being one of the oldest children of the Summer, and therefore first of all to be spoken of in this place, yet are not all Cherries ripe at one instant, but some sooner then other some, according to the benefit of the Sunne, the warmth of the ayre, and the strength of sap in the branch on which the Cherry hangeth: they are a Fruit tender and pleasant, and therefore much subject to bee devoured and consumed with Birds of the smallest kindes, as Sparrowes, Robins, Starlings, and such like, especially the Jay, and the Bul-finch, who will devoure them stones and all, even so fast as they ripen: for prevention whereof, if you have great abundance of Cherry trees, as maine holts that bee either one or many akers in compasse, you shall then in divers places of your holts, as well in the midst, as out-corners, cause to bee erected up certaine long poales of Firre, or other wood, which may mount somewhat above the tops of the trees, and on the toppes of those poales you shall place certaine Clapp-milles, made of broken trenchers joyned together like sayles, which being mooved and carryed about with the smallest ayre, may have underneath the sayles a certaine loose little board, against which every sayle may clap, and make a great noyse, which will affright and scare the Birds from your trees: these milles you shall commonly see in Husbandmens yards placed on their stackes or hovells of Corne, which doth preserve them from fowle and vermine: but for want of these clap-milles you must have some boy or young fellow that must every morning from the dawning of the day till the Sunne bee more then an houre high, and every evening from five of the clocke till nine, runne up and downe your ground, whooping, showting, and making of a great noyse, or now and then shooting of some Harquebush, or other Peece: but by no meanes to use slings or throwing of stones, lest by the miscarriage

Of gathering and preserving Cherries.

of

of his hand hee either beate downe the fruit or bruiſe the trees. In this ſort having preſerved your Cherries from deſtruction, you ſhall then know their ripeneſſe by their colours, for ever thoſe which are moſt red, are moſt ripe, and when you ſee any that are ripe, you ſhall take a light ladder, made either of fyrre or ſallow, and ſetting it carefully againſt the branches, ſo as you neither bruiſe them nor the fruit, you ſhall gather thoſe you finde ripe, not taking the fruit from the ſtalke, but nipping the ſtalke and fruit both together from the tree: alſo you ſhall bee carefull in gathering to handle or touch the Cherry ſo little as may bee, but the ſtalke onely, eſpecially if your hands bee hot, or ſweaty, for that will change the colour of your Cherries, and make them looke blacke: if there bee any ripe Cherries which hang out of the reach of your hands, then you ſhall have a fine ſmall gathering hooke of wood, whoſe bout ſhall bee made round, and ſmooth, for nipping the barke of the branches, and with it you ſhall gently pull unto you thoſe branches you cannot reach: you ſhall alſo have a little round basket of almoſt a foote deepe, made with a ſive bottome, having a handle thwart the toppe, to which a ſmall hooke being faſtned, you ſhall with that hooke hang the basket by you on ſome convenient cyon, and as you gather the Cherries, gently lay them downe into the ſame, and when you have filled your basket you ſhall deſcend and empty it into larger great baskets made of the ſame faſhion, with ſive bottomes, and having underneath two broad lathes or ſplinters, at leaſt three fingers broad a peece, within foure inches one of the other, and going both one way croſſe overthwart the basket, that if either man or woman ſhall carry them upon their heads, which is the beſt manner of carriage, then the ſplinters may defend the bottome of the basket from the head of the party, and keepe the Cherries from hurt or bruſing, and if you have occaſion to carry your Cherries farre, and that the quantity grow beyond the ſupport of a man, then you ſhall packe them in hampers, panniers made with

falſe.

false bottomes like sives, and finely lined on the out side with white straw, and so being closely trust on each side a Horses backe, to carry them whither you please. You shall by no meanes suffer your Cherries to lye in any great or thicke heapes one upon another, but until you sell them, or use them, lay them as thinne as may be, because they are apt of themselves to sweat and catch heate, and that heate doth soone deprive them of the glory of their colour. When you gather any Cherries to preserve, you shall gather those which are the greatest, the ripest, you shall pull them from their stalkes one by one, and use them at furthest within foure and twenty houres after the time they are gotten.

The gathering of stone Fruit.

For the gathering of Plumbes in generall, it is in the same manner as you did gather your Cherries, both with such a like ladder, such a like hooke, and such like vessels, onely some more speciall observations are to bee observed in gathering your dainty grafted Plumbes, then of the others, which are of a more hard and iaduring nature. You shall know then that for gathering of Abricots, Peaches, Date-Plumbes, and such like grafted Plumbes, you shall duely consider when they are perfectly ripe, which you shall not judge by their dropping from the tree, which is a signe of over-much ripenesse, tending to rottennesse, but by the true mixture of their colour, and perfect change from their first complexion: for when you shall perceive that there is no greenenesse nor hardnesse in their out-sides, no, not so much as at the setting on of the stalke, you may then judge that they are ready to bee gathered, and for a perfecter tryall thereof you may if you please, take one which you thinke ripest from the tree, and opening it, if you see the stone comes cleane and dry away and not any of the inpart of the fruit cleaving unto it, then you may assure your selfe that the fruit is ready to be gathered, which you shall with great diligence and care gather, not by any meanes laying one Plumbe upon another, but each severally by another, for these dainty Plumbes are naturally so tender that the least touch, though of themselves, doth bruise them,

and occasion rottennesse. Now when you have gathered them, if either you have desire to send them any journey, as in gratulation to your friends, or for other private commoditie, you shall take some close, smooth boxe, answerable to the store of fruit you are to send, and first line it within all over with white paper, then lay your Plumbes one by one all over the bottome of the boxe, then covering them all over with white paper, lay as many moe upon the toppe of them, and cover them likewise with paper, as before, and so lay row upon row with papers betweene them, untill the boxe bee sufficiently filled, and then closing it up send it whither you please, and they will take the least hurt, whereas if you should line the boxe either with hay or straw, the very skins are so tender that the straw would print into them and bruise them exceedingly, and to lay any other soft thing about them, as either wooll or bumbast, is exceeding evill, because it heateth the Plumbes, and maketh them sweat, through which they both loose their colour and rot speedily. As touching the gathering of Plumbes when they are hard, and to ripen them afterward by laying them upon nettles, to which consenteth the most of our *London*-Fruiterers, I am utterly against the opinion, because I both know nature to be the perfectest worke-Mistris, and where shee is abridged of her power there ever to follow disorders and imperfections, as also that when such things are done, as it were through an over-hasty constraint, there cannot proceed any thing but abortivenesse, and a distastfull relish: from whence I thinke it comes to passe that in *London* a man shall very seldome taste a delicate or well relisht Plumbe, unlesse it bee from such as having fruit of their owne, make no commoditie thereof more then their owne pleasures: yet thus much I would perswade every one, that if they have moe Plumbes ripe at once then they can use, or spend, that then after they are gathered, to spread them thinly upon Nettles or Vine-tree leaves, and it will preserve them sound and well coloured a long time together, but if your store be

Of gathering hard Plumbes.

Of keeping of Plumbes.

so superabundant that in no reasonable time you can spend them, then what you doe not preserve, or make Godiniake, or Marmulade of, the rest you shall take and sprinkling them over with sweet-wort, or growt, and then laying them one by one (yet so as they may not touch one another) upon hurdles or fleakes made of wands, or twigges, and put them into an Oven after Bread or Pyes have beene tane thereour, and so leasurely dry them, and they will not onely last, but tast pleasantly all the yeare after: and in this sort you may use all kindes of Plumbes or Peares, whatsoever. Now for the gathering of the other ordinary sorts of ungrafted Plumbes, which have both much stronger rindes, and are lesse subject to rotting, you shall gather them, carry, or transport them, in the same manner that you did your Cherries, onely in these, as in all other sorts of fruit whatsoever, you shall not omit never to gather, or pull them from the tree, till the dew bee dried cleane both from the grasse and from the trees, and that the day be dry, faire, and full of sunne-shine: for the least wet or moisture doth canker and rot the fruit.

As touching the gathering of Peares, though sundry Fruiterers observe sundry wayes in gathering them, as some making more haste then good-speed, as either to have the first taste, or the first profit, some using more negligence, thinking their store so great it will never bee consumed, and some so curious, that they will not gather till their Peares fall into their bosomes, all which are dispraiseable fashions, yet I for my part would ever advise all diligent husbands to observe a mediocritie, and take the fittest season for the gathering of his fruit: as thus for example. If because you are unexperienced or unacquainted with the fruit you doe not know the due time of his ripening, you shall observe the colour of the Peare, and if you see it doe alter, either in part, or in all, you shall bee assured the fruit is neere ripening, for Peares doe never change their colours, but when they doe desire to bee taken from the tree: and of all fruit the Peare may be gathered the hardest, Of the gathering of Peares

becauſe both his owne naturall heate and peculiar quality will ripen him beſt with lying: yet to be more ſtrongly fortified in the knowledge of the ripeneſſe of your fruit, and becauſe it is better to get a day too late, then an houre too early, you ſhall before you gather your Peares, whether they bee Summer fruit or Winter fruit, or whether you meane to ſpend them ſoone or preſerve them long, take one of them from the tree, which is neither the ripeſt nor the greeneſt, but betwixt both, and cut it through the midſt with your knife, not long-wiſe, but over-thwart, and then looke into the coare where the kirnels lye, and if it bee hollow ſo as the kirnels lye as it were hollow therein, the neather ends thereof being turned either blacke, or blackiſh, albeit the complexion of the Peare be little, or not at all altered, yet the Peares have their full growth, and may very well be gathered: then laying them either upon a bed of ferne, or ſtraw, one upon another, in great thickneſſe, their owne naturall heate will in ſhort ſpace ripen them, which you ſhall perceive both by the ſpeedy changeing of their colour, and the ſtrength of their ſmell, which will bee exceeding ſuffocating, which as ſoone as you perceive, you ſhall then ſpread them thinner and thinner, untill they be all ripe, and then lay them one by one, in ſuch ſort as they may not touch one another, and then they will laſt much the longer, you ſhall alſo after they bee ripe, neither ſuffer them to have ſtraw nor ferne under them, but lay them either upon ſome ſmooth table, boards, or fleakes of wands, and they will laſt the longer.

Of tranſporting, or carrying of Peares farre.

If you bee to carry or tranſport Peares farre, you ſhall then gather them ſo much the ſooner, and not ſuffer any ripe one to bee amongſt them, and then lining great wicker baskets (ſuch as will hold at leaſt quarters a peece) finely within with white ſtraw, fill them up with Peares, and then cover them with ſtraw, and corde them above, and you may either tranſport them by Land or Sea, whither you pleaſe, for they will ripen in their carriage: but when you come to your place of reſidence, then you muſt needs

needs unpacke them, and ſpread them thinner, or elſe they will rot and conſume in a ſodaine.

There be ſundry wayes of gathering Peares, or other fruit, as namely, to climbe into the tree and to have a basket with a line faſtned thereto, and ſo when it is filled, to let it downe, and cauſe it to be emptied, which labour though ſome of our Southerne Fruiterers doe not much commend, yet for mine owne part I doe not ſee much errour therein, but that it is both allowable and convenient, both becauſe it neither bruiſeth the fruit, nor putteth the gatherer to any extraordinarie labour, onely the imaginary evill is, that by climbing up into the tree, he that gathereth the fruit, may indanger the breaking, ſlipping, and disbranching of many of the young cyons, which breedeth much hurt and damage to the tree, but judgement, and care, which ought to be apropriate to men of this qualitie, is a certaine preventer of all ſuch miſchiefes. Now for ſuch as in gathering of their fruit do every time that the basket is full, bring it downe themſelves from the tree, and empty it by powring the fruit rudly, and boyſterouſly forth, or for beating of fruit downe with long poales, loggets, or ſuch like, they are both moſt vilde and prepoſterous courſes, the firſt being full of too much fooliſh and careleſſe trouble, the latter of too much diſorder and cruelty, ruining in a moment what hath beene many yeares in building: as for the climbing the tree with a ladder, albeit it be a very good way for the gathering of fruit, yet if it be never ſo little indiſcreetly handled, it as much hazardeth the breaking and bruiſing both of the fruit and the ſmall cyons, as either climbing the tree, or any other way whatſoever.

Of gathering diverſly.

Now for the gathering of your Apples: you ſhall underſtand that your Summer fruit, as your Ieniting Wibourne, and ſuch like, are firſt to be gathered, whoſe ripeneſſe, you may partly know by the change of colour, partly by the pecking of Birds, but chiefely by the courſe formerly deſcribed for your knowledge of the ripeneſſe of the Peare, which is the hollowneſſe of coare, and liberty of the kernel

The gathering of Apples.

onely, and when you doe perceive they are ripe, you shall gather them in such wise as hath beene declared for the gathering of your Peares, without respecting the state of the Moone, or any such like observation, but when you come to gather your Winter-fruit, which is the Pippin, Peare-maine, Russetting, Blacke-annat, and such like, you shall in any wise, gather them in the wane of the Moone, and, as before I said, in the dryest season that may be, and if it be so that your store be so great that you cannot gather all in that season, yet you shall get so much of your principall fruit, the youngest and faireſt, as is possible to be gotten, and preserve it for the last which you intend either to spend, or utter. Now for the manner of gathering your Apples I doe not thinke you can amend or approve a better way then that which hath beene described for the gathering of Peares, yet some of our late practitioners (who thinke themselves not cunning if they be not curious) dislike that way, and will onely have a gathering apron, into which having gathered their fruit, they doe empty it into larger vessels: this gathering apron is a strong peece of Canvasse at least an ell every way, which having the upper end made fast about a mans neck, & the neather end with three loopes, that is, one at each corner, & one at the midst, through which you shall put a string and binde it about your waste, insomuch, that both the sides of your apron being open, you may put your fruit therein with which hand you please: this manner of gathering Apples is not amisse, yet in my conceit, the apron is so small a defence for the Apples, that if it doe but knocke against the boughes as you doe move your selfe, it cannot chooſe but bruise the fruit very much, which ought ever to be avoyded: therefore still I am of this opinion, there is no better way, safer, nor more easie, then gathering them into a small basket, with a long line thereat, as hath beene before declared in the gathering of Peares. Now you shall carefully observe in emptying one basket into another, that you doe it so gently as may be, least in powring them out too rudely the stalkes

of the fruit doe pricke one another, which although it doe appeare little or nothing at the first, yet it is the first ground, cause, and beginning of rottennesse, and therefore you shall to your utermost power gather your Apples with as small stalkes as may be, so they have any at all, which they must needs have, because that as too bigge stalkes doe pricke and bruise the fruit, so to have none at all makes the fruit rot first in the place where the stalke should be: you shall also keepe you fruit cleane from leaves, for they being greene and full of moisture, when by reason of their lying close together, they beginne to wither, they strike such an heate into the Apples, that they mil-dew and rot instantly.

As touching your Fallings, which are those Apples which fall from your trees, either through too much ripenesse, or else through the violence of winde, or tempests; you shall by no meanes match them, or mixe them with your gathered fruit, for they can by no meanes last or indure so long, for the latter which fall by force of wind, wanting the true nourishment of the earth, and the kindly ripening upon the tree, must necessarily shrinke, wither, and grow rivelled, so that your best course is to spend them presently, with all speed possible: for the other which hath too much ripenesse from the earth, and the tree, though it bee much better then the other, yet it cannot be long lasting, both because it is in the falling bruised, and also hath too much ripenesse, which is the first steppe to rottennesse, so that they must likewise be spent with all expedition. For the carriage of your Apples, if the place be not farre, whither you should carry them, you shall then in those large baskets into which you last emptied them, carry them upon cole-staves, or stangs, betwixt two men, and having brought them carefully into your Apple-loft, powre them downe gently upon bedds of ferne or straw, and lay them in reasonable large heapes, every sort of Apples severall by themselves, without mixture, or any confusion: and for such Apples as you would have to ripen soone, you shall

Of Fallings.

Of carriage and keeping Fruit.

ſhall cover them all over with ferne alſo, but for ſuch as you would have take all poſſible leaſure in ripening, thoſe you ſhall lay neither upon ferne, nor ſtraw, but upon the bare boards; nay, if you lay them upon a plaſter floare (which is of all floares the coldeſt) till *Saints Andrewes tide*, it is not amiſſe, but very profitable, and the thinner you lay them ſo much the better. Now if you have any farre journey to carry your Apples, either by land, or by water, then trimming and lyning the inſides of your baskets with ferne, or wheate-ſtraw woven as it were cleane through the basket, you ſhall packe, cover, and cord up your Apples, in ſuch ſort as you did your Peares, and there is no danger in the tranſportation of them, be it by ſhippe, cart, waggon, or horſe-backe. If you be inforced to packe ſundry ſort of Apples in one basket, ſee that betwixt every ſort you lay a diviſion of ſtraw, or ferne, that when they are unpackt, you may lay them againe ſeverally: but if when they are unpackt, for want of roome you are compeld to lay ſome ſorts together, in any wiſe obſerve to mixe thoſe ſorts together which are neereſt of taſte, likeſt of colour, and all of one continuance in laſting. as for the packeing up of fruit in hogſheads, or ſhooting them under hatches when you tranſport them by Sea, I like neither of the courſes, for the firſt is too cloſe & nothing more then the want of ayre doth rot fruit, the other is ſubject to much wet when the breach of every Sea endangereth the waſhing of the Apples, and nothing doth more certainly ſpoyle them. The times moſt unſeaſonable for the tranſporting of fruit, is either in the month of *March*, or generally in any froſty weather, for if the ſharpe coldneſſe of thoſe ayres doe touch the fruit, it preſently makes them looke blacke, and rivelled, ſo that there is no hope of their continuance.

The place where you ſhall lay your fruit muſt neither be too open, nor too cloſe, yet rather cloſe then open, it muſt by no meanes be low upon the ground, nor in any place of moiſtneſſe: for moiſture breedes fuſtineſſe, and ſuch naughty

naughty ſmells eaſily enter into the fruit, and taint the relliſh thereof, yet if you have no other place but ſome low cellar to lay your fruit in, then you ſhall raiſe ſhelves round about, the neereſt not within two foot of the ground, and lay your Apples thereupon, having them firſt lyned, either with ſweete Rye-ſtraw, Wheat-ſtraw, or dry ferne: as theſe undermoſt roomes are not the beſt, ſo are the uppermoſt, if they be unſeeld, the worſt of all other, becauſe both the ſunne, winde, and weather, piercing through the tiles, doe annoy and hurt the fruit: the beſt roome then is a well ſeeld chamber, whoſe windowes may be ſhut and made cloſe at pleaſure, ever obſerving with ſtraw to defend the fruit from any moiſt ſtone wall, or duſty mud wall, both which are dangerous annoyances.

Now for the ſeparating of your fruit, you ſhall lay thoſe neereſt hand, which are firſt to be ſpent, as thoſe which will laſt but till *Alhollantide*, as the Ciſling, Wibourne, and ſuch like, by themſelves: thoſe which will laſt till *Chriſtmaſſe*, as the Coſtard, Pome-water, Queene-Apple, and ſuch like, thoſe which will laſt till *Candlemas*, as the Pome-de-roy, Gooſe-Apple, and ſuch like, and thoſe which will laſt all the yeare, as the Pippin, Duzing, Ruſſetting, Peare-maine, and ſuch like, every one in his ſeverall place, and in ſuch order that you may paſſe from bed to bed to cleanſe or caſt forth thoſe which be rotten or putrified at your pleaſure, which with all diligence you muſt doe, becauſe thoſe which are tainted will ſoone poyſon the other, and therfore it is neceſſary as ſoone as you ſee any of them tainted, not onely to cull them out, but alſo to looke upon all the reſt, and divide them into three parts, laying the ſoundeſt by themſelves, thoſe which are leaſt tainted by themſelves, and thoſe which are moſt tainted by themſelves, and ſo to uſe them all to your beſt benefit. The ſeparating of Fruit.

Now for the turning of your longeſt laſting fruit, you ſhall know that about the latter end of *December* is the beſt time to beginne, if you have both got and kept them in ſuch ſort as is before ſaid, and not mixt fruit of more

early ripening amongst them: the second time you shall turne them, shall be about the end of *February*, and so consequently once every month till *Penticost*, for as the yeere time increaseth in heate, so fruit growes more apt to rot: after *Whitsontide*, you shall turne them once every fortnight, alwayes in your turning, making your heapes thinner and thinner; but if the weather be frosty, then stirre not your fruit at all, neither when the thaw is, for then the fruit being moist, may by no meanes be touched: also in wet weather fruit will be a little dankish, so that then it must be forborne also, and therefore when any such moistnesse hapneth, it is good to open your windowes and let the ayre dry your fruit before it be turned: you may open your windowe any time of the yeere in open weather, as long as the Sunne is uppon the skye, but not after, except in *March* onely, at what time the ayre and winde is so sharpe that it tainteth and rivelleth all sorts of fruits whatsoever.

To keepe fruit in frost.

If the frost be very extreame, and you feare the endangering your fruit, it is good to cover them somewhat thick with fine hay, or else to lay them covered all over either in Barley-chaffe, or dry Salt: as for the laying them in chests of Iuniper, or Cypresse, it is but a toy, and not worth the practice: if you hang Apples in nettes within the ayre of the fire it will keepe them long, but they will be dry and withered, and will loose their best rellish.

Of Wardens.

Now for the gathering, keeping, ordering, and preserving of Wardens, they are in all sorts, and in all respects to be used as you doe use your Peares, onely you are to consider that they are a fruit of a much stronger constitution, have a much thicker skinne, and will endure much harder season: neither ought you to seeke to ripen them in haste, or before the ordinary time of their owne nature, and therefore to them you shall use neither straw, ferne, nor hay, but onely dry boards to lay them upon, and no otherwise.

Of Medlars and Services.

For your Medlars, you shall gather them about the midst of *October*, after such time as the frost hath nipt and bitten

bitten them, for before they will not be ready, or looſen from the ſtalke, and then they will be nothing ripe, but as hard as ſtones, for they never ripen upon the tree, therefore as ſoone as you have gathered them, you ſhall packe them into ſome cloſe veſſell, and cover them all over, and round about, with thicke woollen cloathes, and about the cloathes good ſtore of hay, & ſome other waight of boards, or ſuch like upon them, all which muſt bring them into an extreame heate, without which they will never ripen kindly, becauſe their ripeneſſe is indeed perfect rottenneſſe: and after they have layne thus, at leaſt a fortnight, you ſhall then looke upon them, and turning them over, ſuch as you finde ripe you ſhall take away, the reſt you ſhall let remaine ſtill, for they will not ripen all at once, and thoſe which are halfe ripe, you ſhall alſo remove into a third place, leaſt if you ſhould keepe them together, they ſhould beginne to grow mouldy before the other were ready; and in the ſelfe ſame manner as you uſe your Medlars, ſo you ſhall uſe your Services, and they will ripen moſt kindely: or if you pleaſe, to ſticke them betwixt large cloaven ſtickes, and to ſprinkle a little old beare upon them, and ſo ſet them in a cloſe roome, they will ripen as kindly as any other way whatſoever.

Of Quinces.

Now for Quinces, they are a fruit which by no meanes you may place neere any other kind of fruit, becauſe their ſent is ſo ſtrong and piercing, that it will enter into any fruit, and cleane take away his naturall relliſh: the time of their gathering is ever in *October*, and the meeteſt place to lay them in, is where they may have moſt ayre, ſo they may ly dry (for wet they can by no meanes indure) alſo they muſt not ly cloſe, becauſe the ſmell of them is both ſtrong and unwholſome: the beds wheron they muſt ly muſt be of ſweet ſtraw, and you muſt both turne them and ſhift them very often, or elſe they will rot ſpeedily: for the tranſporting or carrying them any long journey, you muſt uſe them in all things as you uſe your Peares, and the carriage will be ſafe.

Of Nuts.

For Nuts, of what ſort ſoever they be, you ſhall know

they are ripe as soone as you perceive them a little browne within the huske, or as it were ready to fall out of the same, the skill therefore in preserving of them long from dryneſſe, is all that can be desired at the Fruiterers hands: for as touching the gathering of them, there is no scruple to be observed, more then to gather them cleane from the tree, with the helpe of hookes and such like, for as touching the bruising of them, the shell is defence sufficient. After they be gathered, you shall shale them, and take them cleane out of their huskes, and then for preserving them from either wormes, or drineſſe, it shall bee good to lay them in some low cellar, where you may cover them with sand, being first put into great bagges or bladders: some French-men are of opinion, that if you put them into vessels made of Wal-nut-tree, and mixe ſuy-berries amongst them, it will preserve them moist a long time: others thinke, but I have found it uncertaine, that to preserve Nuts in Honey, will keepe them all the yeere as greene, moist, and pleasant, as when they hung upon the tree. The Dutch-men use (and it is an excellent practice) to take the crusht Crabbes (after your verdjuyce is strained out of them) and to mixe it with their Nuts, and so to lay them in heapes, and it will preserve them long: or otherwise if they be to be transported, to put them into barrell and to lay one layre of crusht Crabbes, and another of Nuts, untill the barrell be filled, and then to close them up, and set them where they may stand coole. But above all these foresaid experiments, the best way for the preserving of Nuts is to put them into cleane earthen pots, and to mixe with them good store of salt, and then closing the pots close, to set them in some coole cellar, and cover them all over with sand, and there is no doubt but they will keepe coole, pleasant and moist, untill new come againe, which is a time fully convenient.

Of Grapes. Now to conclude, for the keeping of Grapes, you shall first understand, that the best time for their gathering is in the wane of the Moone, and about the midst of *October*,

as

as for the knowledge of his ripeneſſe it is ever at ſuch time as his firſt colour is cleane altered, for all Grapes before they bee ripe, are of a deepe thicke greene colour, but after they bee ripe, they are either of a bluiſh red, or of a bright ſhining pale greene. Now for the preſerving them for our Engliſh uſe, which is but onely for a fruit-diſh at our Tables, for neither our ſtore, nor our ſoyle, affords us any for the wine-preſſe, ſome thinke it good, after they are gotten, to lay them in fine dry ſand, or to glaſſe them up in cloſe glaſſes where the ayre cannot peirce, will keepe them long, both full, plumpe, and ſweet; but in my conceit the beſt courſe is after they are gotten, to hang them upon ſtrings bunch by bunch, in ſuch places of your houſe as they may take the ayre of the fire, and they will laſt long, and keepe the ſweeteſt.

CHAP. X.

Of the making of Cyder, or Perry.

CYder is a certaine liquor or drinke made of the juyce of Apples, and Perry the like, made of Peares, they are of great uſe in *France*, and very wholſome for mans body, ſpecially at the Sea, and in Hot Countries, for they are coole and purgative, and doe prevent burning agues: with us here in *England* Cyder is moſt made in the Weſt parts, as about *Devon-ſhiere* and *Cornwaile*, and Perry in *Worceſter-ſhire*, *Gloceſter-ſhire*, and ſuch like, where indeed the greateſt ſtore of thoſe kinds of fruits are to bee found: the manner of making them is, after your fruit is gotten, you ſhall take every Apple, or Peare, by it ſelfe, and looking upon them, picke them cleane from all manner of filthineſſe, as bruſings, rottenneſſe, worme-eating, and ſuch like, neither leave upon them any ſtalkes, or the blacke buds which are and grow upon the tops of the fruit, which done you ſhall put them into ſome

very cleane vessell, or trough, and with beetels, made for the purpose, bruise or crush the Apples or Peares in peeces, and so remove them into other cleane vessels, till all the fruit be bruised: then take a bagge of haire-cloth, made at least a yard, or three quarters, square, and filling it full of the crusht fruit, put it in a presse of wood, made for the purpose, and presse out all the juyce and moisture out of the fruit, turning and tossing the bagge up and downe, untill there be no more moisture to runne forth, and so bagfull after bagfull, cease not untill you have prest all: wherein you are especially to observe, that your vessels into which you straine your fruit be exceeding neate, sweet, and cleane, and there be no place of ill savour, or annoyance neare them, for the liquor is most apt, especially Cyder, to take any infection. As soone as your liquor is prest forth, and hath stood to settle, about twelve houres, you shall then turne it up into sweet hogsheads, as those which have had in them last, either White-wine or Clarret, as for the Sacke vessell it is tollerable, but not excellent: you may also if you please make a small long bagge of fine linnen cloth, and filling it full of the powder of Cloves, Mace, Cynamon, Ginger, and the dry pils of Lemons, and hang it with a string at the bung-hole into the vessell, and it will make either the Cyder or Perry, to taste as pleasantly as if it were Renish-wine, and this being done you shall clay up the bung-hole with clay and salt mixt together, so close as is possible. And thus much for the making of Perry or Cyder.

CHAP.

CHAP. XI.

Of the Hoppe-garden, and first of the ground and situation thereof.

THat the Hop is of great use and commoditie in this kingdome, both the Beere, which is the generall and perfect drinke of our nation, and our daily trafficke, both with *France*, the *Low-countries*, and other nations, for this commoditie, is a continuall testimonie; wherefore the first thing to be considered of in this worke, is the goodnesse and aptnesse of the ground for the bringing forth of the fruit thereof, wherein I thus farre consent with Master *Scot*, that I doe not so much respect the writings, opinions, and demonstrations, of the Greeke, Latine, or French Authors, who never were acquainted with our soyles, as I doe the daily practice and experience which I collect, both from my owne knowledge, and the labors of others my Countrey-men, best seene and approved in this Art: therefore to come to my purpose, you shall understand that the light sand, whether it be red or white, being simple and unmixed is most unfit for the planting of Hops, because that through the barrennesse, it neither hath comfort for the roote, nor through his separate lightnesse, any strong hold to maintaine and keepe up the poles: likewise the most fertill rich, blacke clay, which of all soyles is the best and most fruitfull is not to be allowed for a Hoppe-garden, because his fatnesse and juyce is so strong that the roote being as it were over-fed, doth make the branches bring forth leaves in such infinite abundance, that they leave neither strength nor place for the fruit, either to knit, or put forth his treasure, as I have seene by experience in many places: as for the earth which is of a morish blacke wet nature, and lieth low, although I have often times seene good Hoppes to grow thereupon, being well trencht, and the hils

Fit ground for Hops.

hils cast high to the best advantage, yet it is not the principall ground of all others, because it is never long lasting, but apt to decay and grow past his strength of bearing. The grounds then which I have generally seene to beare the best Hoppes, and whose natures doe the longest continue with such fruit, are those mixt earthes which are clayes with clayes, as blacke with white, or clayes and sands of any sorts, wherein the soyle is so corrected as neither too much fatnesse doth suffocate, nor too much leanesse doth pine: for I had ever rather have my Hoppe-garden desire increase, then continually labour in abatement. And although some doe exceedingly condemne the chalke-ground for this use, yet I have not at any time seene better Hoppes, or in more plenty, then in such places, as at this day may bee seene in many places about *Hartford-shire*. To conclude, though your best mixt earthes bring forth the best Hoppes, yet there is no soyle, or earth, of what nature soever it be (if it lye free from inundation) but will bring forth good Hoppes, if it be put into the hands of an experienced workeman.

Of the situation.

Now, for the situation or site of your Hoppe-garden: you shall so neere as you can place it neare some cover or shelter, as either of hills, houses, high-walles, woods or trees, so those woods or trees bee not so neare that they may drop upon your Hoppe hils, for that will kill them: also the nearer it is planted to your dwelling house it is so much the beter, both because the vigilance of your owne eye is a good guard thereunto, and also the labours of your worke-Master will bee more carefull and diligent. A Hop-garden as it delighteth much in the pleasantnesse of the sunne, so it cannot indure by any meanes, the sharpenesse of the windes, frosts, or Winter weather, and therefore your onely care is your defence and shelter. For the bignesse of your ground, it must be ordered according to your abilitie or place of trade for that commoditie, for if you shall have them but for your owne use, then a roode or two roodes will bee enough, albeit your house keeping match

with

with Nobilitie: but if you have them for a more particular profit, then you may take an Aker, two or three, according to your owne discretion; wherein you shall ever keepe these observations: that one mans labour cannot attend above two thousand five hundred hils, that every roode will beare two hundred and fiftie hils, every hill beare at least two pounds and an halfe of Hops (which is the just quantity that will serve to brew one quarter of Malt) and that every hundred waight of Hops, is at the least, in a reasonable yeare, worth foure-nobles the hundred: so that every roode of ground thus imployed, cannot be lesse worth, at the meanest reckoning, then sixe pounds by the yeare: for if the ground be principall good for the purpose, and well ordered, the profit will bee much greater, in as much as the bells of the Hops will be much greater, full, and more waighty: And thus much for the ground and situation.

CHAP. XII.

Of the ordering of the Garden, and placing of the Hils.

AS soone as you have chosen out your plat-forme of ground, you shall either by ploughing, or digging, or by both, make it as flat and levell as is possible, unlesse it bee any thing subject unto water, and then you shall give it some small descent, and with little trenches convay the water from annoying it: you shall also the yeare before you either make hill or plant it with Hoppe-roots, sowe it all over with hempe, which will not onely kill, and stifle all sorts of weeds, but also rot the greene swarth, and make the mould mellow, and apt to receive the roots when they come to be planted.

Now, as soone as your ground is thus prepared, you shall then take a line, and with it measure your ground overthwart, and to every hill allow at least three foote of ground every way, and betwixt hill and hill, at the least sixe foote distance: and when you have marked thus the number of thirty or fourty places, where your hills shall be

placed, intending ever that the time of yeare for this worke must be about the beginning of *Aprill*, you shall then in the center, or mid part of these places made for the site of your hils, digge small square holes of a foote square each way, and a full foote deepe, and in these holes you shall set your Hop-roots that is to say, in every hole at least three rootes, and these three rootes you shall joyne together in such wise that the tops of them may be of one equall height, and agreeing with the face or upper part of the earth, you shall set them straight and upright, and not separating them, as many doe, and setting at each corner of the hole a roote, neither shall you twist them, and set both ends upward, nor lay them flat or crosse-wise in the earth, neither shall you make the hils first and set the roots after, nor immediatly upon the setting cast great hils upon them, all which are very vild wayes for the setting of Hops, but, as before I said, having joyned your rootes together, you shall place them straight and upright, and so holding them in one hand, with the other put the moulds close, firme, and perfectly about them, especially to each corner of the hole, which done you shal likewise cover the sets themselves all over with fine moulds, at least two fingers thicke, and in this sort you shall plant all your garden quite over, making the sites for your hill to stand in rowes and rankes, in such order that you may have every way betweene the hils small allies and passages, wherein you may goe at pleasure from hill to hill, without any trouble or annoyance, according to that forme which I have before prescribed touching the placing of your Apple-trees in each severall quarter in your Orchard: and herein you are to understand, that in this first yeare of planting your Hop-garden, you shall by no meanes fashion or make any great hils, but onely raise that part of the earth where your plants are set, some two or three fingers higher then the ordinary ground.

The choise of Rootes.

Now before I proceed any further, I thinke it not amisse to speake something touching the choise, gathering and trimming of Hop-roots: wherefore you shall understand, that about the latter end of *March* is the best gathering of

Hop-

Hop-roots, which ſo neare as you can you ſhall ſelect out of ſome garden of good reputation, which is both carefully kept, and by a man of good knowledge, for there every thing being preſerved in his beſt perfection, the roots will be the greateſt and moſt apt to take: & in the choiſe of your roots you ſhall ever chuſe thoſe which are the greateſt, as namely, ſuch as are at the leaſt 3. or 4. inches about, and ten inches long, let every root containe about 3. joynts, and no more, and in any caſe let them be the cyons of the laſt yeares growth: if they be perfectly good they have a great greene ſtalke with red ſtreakes, and a hard, broad, long, green bell; if they be otherwiſe, as namely, wild Hops, then they are ſmall and ſlender, like threds, their colour is all red, even when it is at leaſt three yards high, whereas the beſt Hop carrieth his reddiſh colour not three foote from the earth. Now having gotten ſuch roots as are good and fit for your purpoſe, if the ſeaſon of the weather, or other neceſſitie hinder you from preſently ſetting them, you ſhall then either lay them in ſome puddle, near to your garden, or elſe bury them in the ground, untill fit time for their planting: and of the two it is better to bury them then lay them in puddle, becauſe if you ſo let them lie above 24. houres, the roots will be ſpoyled.

Now after you have in manner aforeſhewed, planted your garden with rootes, it ſhall not be amiſſe, if the place be apt to ſuch annoyance, to pricke upon the ſite of every hill a few ſharpe thornes to defend them from the ſcratching of poultry, or ſuch like, which ever are buſie to doe miſchiefe: yet of all houſe-fowle Geeſe be the worſt, but if your fence be as it ought, high, ſtrong, and cloſe, it will both prevent their harme and this labour.

Next unto this worke is the placing of Poles, of which wee will firſt ſpeake of the choiſe thereof, wherein if I diſſent from the opinion of other men, yet imagine I ſet downe no Oracle, but referre you to the experience of the practice, and ſo make your owne diſcretion the arbiter betweene our diſſentions. It is the opinion of ſome, that Alder-poles are moſt proper and fit for the Hoppe-garden,

both that the Hop taketh, as they say, a certaine naturall love to that wood, as also that the roughnesse of the rind is a stay and benefit to the growth of the Hop: to all which I doe not disagree, but that there should be found Alder-poles of that length, as namely, 16. or 18. foote long, nine or ten inches in compasse, and with all rush-growne, straight, and fit for this use, seemeth to me as much as a miracle, because in my life I have not beheld the like, neither doe I thinke our kingdome can afford it, unlesse in some such especiall place where they are purposely kept & maintained, more to shew the art of their maintenance, then the excellencie of their natures: in this one benefit, and doubtlesse where they are so preserved, the cost of their preservation amounteth to more then the goodnesse of their extraordinary qualitie, which mine Author defends to the contrary, giving them a larger prerogative, in that they are cheaper to the purse, more profitable to the plant, and lesse consumption to the commonwealth: but I greatly doubt in the approbation, and therefore mine advice is not to relye only upon the Alder, and for his preheminence imagine all other Poles insufficient: but be assured that either, the Oake-pole, the Ash, the Beech, the Aspe, or Maple, are every way as good, as profitable, and by many degrees much longer lasting.

Now, if it bee so that you happen to live in the champian Countrey, as for the most part *Northampton-shiere*, *Oxford-shiere*, some parts of *Leycester* and *Rutland* are, or in the wet and Low-countries, as *Holland*, and *Kesten* in *Lincolne-shiere*, or the Ile of *Elye* in *Cambridge-shiere*, all which places are very barren of wood, and yet excellent soyles to beare Hoppes, rather then to loose the commoditie of the Hoppe-garden I wish you to plant great store of Willowes, which will afford you poles as sufficient as any of the other whatsoever, onely they are not so long lasting, and yet with carefull and dry keeping, I have seene them last full out seven yeares, a time reasonably sufficient for any young wood, for such a use. Thus you see the curiosity is not very great of what wood soever

your

your poale bee, so it bee of young and cleane growth, rush-growne, (that is to say, biggest at the neather end) 18 foot in length, and 10 inches in compasse. These poales you shall cut and prepare betwixt the feast of *All-saints* and *Christ-masse*, and so pile them up in some dry place where they may take no wet, untill it be mid *Aprill*, at which time (your hops being shot out of the ground at least three quarters of a yard, so that you may discerne the principall eyens which issue from the principall rootes) you shall then bring your poales into the garden, and lay them along in the alleyes, by every hill so many poales as shall be sufficient for the maine branches, which haply the first yeare will not be above two or three poales at the most to a hill, but in processe of time more, as foure or five according to the prosperitie of the plants, and the largenesse of the hills. After you have thus laid your poales, you shall then beginne to set them up in this sort: first, you shall take a gave-locke, or crow of yron, and strike it into the earth so neare unto the roote of the Hoppe as is possible, provided alwayes that you doe not bruise, or touch the roote, and so stroke after stroke, cease not striking till you have made a hoale at least two foote deepe, and make them a little slantwise inward towards the hill, that the poales in their standing may shoote outwards, and hold their greatest distance in the toppes: this done, you shall place the poales in those hoales, thus made with the yron crow, and with another piece of wood, made rammer-wise, that is to say, as bigge at the neather end as the biggest part of the poale, or somewhat more, you shall ramme in the poales, and beate the earth firme and hard about them: alwayes provided, that you touch not any branch, or as little as you may, beate with your rammer within betweene the poales, onely on the out-side make them so fast, that the winde, or weather, may not disorder or blow them downe: then lay to the bottome of every poale, the branch that shall ascend it, and you shall see in a short space, how out of their owne natures, they will imbrace and climbe about them.

The proportion of the Poale.

Of cutting and erecting Poales.

Now, if it happen after your Hops are growne up, yet not come to their full perfection, that any of your poales chance to break, you shall then take a new poale, and with some soft greene rushes, or the inmost greene barke of an Alder-tree, tye the top of the Hop to the the top of the new poale, then draw the broken poale out of the Hop, (I meane that part which being broken lyeth upon the ground) and as you saw it did wind about the old poale (which is ever the same way that the Sun runs) so you shall wind it about the new poale: then loosening the earth a little from the neather part of the broken poale, you may with your own strength pull it cleane out of the earth, and place the new poale in his roome. Now, ther be some which are exceeding curious in pulling up these old poales, and rather then they will shake the earth, or loosen the mould, they will make a paire of large pincers, or tarriers of yron, at least five foot long, with sharpe teeth, and a clasping hooke to hold the teeth together, when they have taken fast hold upon the poale so neere the earth as is possible, and then laying a piece of wood under the tarriers, and poysing downe the other ends, to rest the poale out of the earth without any disturbance, the modell or fashion of which instrument is contained in this figure:

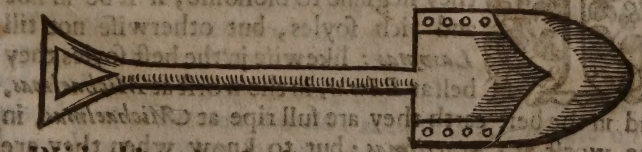
This instrument is not to be discommended, but to be held of good use, either in binding grounds where the earth hardneth and holdeth the poale more then fast, or in the strength

and

and heate of Summer, when the dryneſſe of the mould will by no meanes ſuffer the poale to part from it: but otherwiſe it is needleſſe and may without danger be omitted.

Aſſoone as you have ſufficiently ſet every hill with poales, and that there is no diſorder in your worke, you ſhall when the Hops begin to climbe, note if there be any cyons or branches which doe forſake the poales, and rather ſhoot alongſt the ground, then looke up to their ſupporters, and all ſuch as you ſhall ſo find, you ſhall as before I ſayd, either with ſoft greene ruſhes, or the greene barke of Elder, tye them gently unto the poales, & wind them about, in the ſame courſe that the Sun goes, as oft as conveniently you can: and this you ſhall do ever after the dew is gone from the ground, and not before, and this muſt be done with all poſſible ſpeed, for that cyon which is the longeſt before it take unto the poale is ever the worſt and brings forth his fruit in the worſt ſeaſon.

Now, as touching the making of your hils, you ſhall underſtand that although generally they are not made the firſt yeere, yet it is not amiſſe if you omit that ſcruple, and begin to make your hils as ſoone as you have placed your poales, for if your induſtry be anſwerable to the deſert of the labor, you ſhall reape as good profit the firſt yeare, as either the ſecond or the third. To begin therefore to make your hils, you ſhall make you an inſtrument like a ſtubbing Hoe, which is a toole wherwith laborers ſtub roots out of decai'd woodland grounds, only this ſhall be ſomewhat broader and thinner, ſomewhat in faſhion (though twice ſo big) unto a Coopers Ads, with a ſhaft at leaſt 4 foot long: ſome only for this purpoſe uſe a fine paring Spade, which is every way as good, and as profitable, the faſhion of which is in this figure: Of the Hils.



With this paring Spade, or Hoe, you ſhall pare up the greene-ſwarth and uppermoſt earth, which is in the alleyes

leyes between the hils, and lay it unto the roots of the Hops, raising them up like small Mole-hils, and so monthly increasing them, all the yeare through, make them as large as the site of your ground will suffer, which is at least foure or five foote overthwart in the bottome, and so high as conveniently that height will carry: you shall not by any meanes this first yeare decay any cyons or branches which spring from the hils, but maintaine them in their growth, and suffer them to climbe up the poales, but after the first yeere is expired you shall not suffer above two or three cyons at the most, to rise upon one poale. After your hills are made, which as before I sayd would be at least foure or five foote square in the bottome, and three foote high, you shall then diligently every day attend your garden, and if you finde any branches that being risen more then halfe way up the poales, doe then forsake them and spread outward, dangling down, then you shall either with the helpe of a high stoole, on which standing, you may reach the top of the poale, or else with a small forckt sticke, put up the branch, and wind it about the poale: you shall also be carefull that no weeds or other filthinesse grow about the roots of your Hops to choak them, but upon the first discovery to destroy them.

CHAP. XIII.

Of the gathering of Hoppes, and the preserving of the Poales.

TOuching the gathering of Hops you shall understand that after Saint *Margarets* day they beginne to blossome, if it be in hot and rich soyles, but otherwise not till *Lammas*: likewise in the best soyles they bell at *Lãmas*, in the worst at *Michaelmas*, and in the best earth they are full ripe at *Michaelmas*, in the worst at *Martilmas*; but to know when they are ripe indeede, you shall perceive the seed to loose his greene colour

colour, and looke as browne as a Hares backe, wherfore then you ſhall with all diligence gather them, and becauſe they are a fruit that will endure little or no delay, as being ready to fall as ſoone as they be ripe, and becauſe the exchange of weather may breed change in your work, you ſhall upon the firſt advantage of faire weather, even ſo ſoone as you ſhall ſee the dew exhaled and drawne from the earth, get all the ayd of men, women and children which have any underſtanding, to help you, and then having ſome convenient empty barne, or ſhedde, made either of boards or Canvaſſe, neare to the garden, in which you ſhall pull your Hoppes, you ſhall then beginne at the neareſt part of the garden, and with a ſharpe garden knife cut the ſtalkes of the Hoppes aſunder cloſe by the toppes of the hils; and then with a ſtrait forke of yron, made broad and ſharpe, for the purpoſe, ſhove up all the Hoppes, and leave the poales naked. Then having labouring perſons for the purpoſe, let them carry them unto the place where they are to be puld; and in any caſe cut no more then preſently is carryed away as faſt as they are cut, leſt if a ſhewer of raine ſhould happen to fall, and thoſe being cut and taking wet, are in danger of ſpoyling. You ſhall provide that thoſe which pull your Hops be perſons of good diſcretion, who muſt not pull them one by one, but ſtripe them roundly through their hands into baskets, mixing the young buddes and ſmall leaves with them, which are as good as any part of the Hoppe whatſoever. After you have pulled all your Hoppes and carried them into ſuch convenient dry roomes as you have prepared for that purpoſe, you ſhall then ſpread them upon cleane floores, ſo thinne as may be, that the ayre may paſſe thorow them, leſt lying in heapes they ſweate, and ſo mould, before you can have leaſure to dry them. After your Hoppes are thus ordered, you ſhall then cleanſe your garden of all ſuch Hoppe-ſtraw, and other traſh, as in the gathering was ſcatrered therein: then ſhall you plucke up all your Hoppe-poales, in manner before ſhewed, and having either ſome dry boarded houſe, or ſhed, made for the

purpose, pile them one upon another, safe from winde or weather, which howsoever some that would have their experience, like a Colossus, seeme greater then it is, doe disallow, yet it is the best manner of keeping of poales, and well worthy the charge: but for want of such a house, it shall not be amisse to take first your Hoppe-straw, and lay it a good thicknesse upon the ground, and with sixe strong stakes, driven slant-wise into the earth, so as the uppermost ends may be inward one to another, lay then your Hoppe-poales betweene the stakes, and pile them one upon another, drawing them narrower and narrower to the top, and then cover them all over with more Hoppe-straw, and so let them rest till the next *March*, at which time you shall have new occasion to use them.

Winter businesse.

As soone as you have piled up your Hoppe-poales, dry and close, then you shall about mid *November* following throw downe your hills, and lay all your rootes bare, that the sharpnesse of the season may nip them, and keepe them from springing too early: you shall also then bring into the garden old Cow-dung, which is at least two yeares old, for no new dung is good, and this you shall lay in some great heape, in some convenient place of the garden untill *Aprill*, at which time, after you have wound your Hoppes about your poales, you shall then bestow upon every hill two or three Spades-full of the Manure mixt with earth, which will comfort the plant and make it spring pleasantly.

After your hills are puld downe, you shall with your garden Spade, or your Hoe, undermine all the earth round about the roote of the Hoppe, till you come to the principall rootes thereof, and then taking the youngest rootes in your hand, and shaking away the earth, you shall see how the new rootes grow from the old sets, then with a sharpe knife cut away all those rootes as did spring the yeare before, out of your sets, within an inch and a halfe of the same, but every yeare after the first you shall cut them close by the old rootes. Now, if you see any rootes which doe grow

grow straight downeward, without joynts, those you shall not cut at all, for they are great nourishers of the plant, but if they grow outward or side-wayes, they are of contrary natures, and must necessarily bee cut away. If any of your Hoppes turne wilde, as oft it happens, which you shall know by the perfect rednesse of the branch, then you shall cut it quite up, and plant a new roote in his place. After you have cut and trimmed all your rootes, then you shall cover them againe, in such sort as you were taught at the first planting them, and so let them abide till their due time for poaling.

CHAP. XIIII.

Of drying, and not drying of Hoppes, and of packing them when they are dryed.

ALthough there bee much curiositie in the drying of Hoppes as well in the temperature of heate (which having any extremitie, as either of heate, or his contrary, breedeth disorder in the worke) as also in the framing of the oft or furnace after many new moulds and fashions, as variable as mens wits and experiences, yet because innovations and incertaintie doe rather perplexe then profit, I will shunne, as much as in mee lyeth, from loading the memory of the studious Husbandman with those Stratagems which disable his understanding from the attaining of better perfection, not disallowing any mans approved knowledge, or thinking, that because such a man can mend smoaking Chimnyes, therefore none but hee shall have license to make Chimnyes, or that because some men can melt Mettall without winde, therefore it shall be utterly unlawfull to use bellowes: these violent opinions I altogether disacknowledge, and wish every one the liberty of his owne thoughts, and for my English Husband, I will shew him that way

to dry his Hops which is moſt fit for his profit, ſafe, eaſie, and without extraordinarie expences.

Firſt, then to ſpeake of the time which is fitteſt for the drying of your Hoppes, it is immediately as ſoone as they are gotten, if more urgent occaſions doe not delay the buſineſſe, which if they happen, then you have a forme before preſcribed how to preſerve them from mouldineſſe and putrifaction till you can compaſſe fit time to effect the work in. The manner of drying them is upon a Kilne, of which there be two ſorts, that is to ſay, an Engliſh Kilne, and a French Kilne: the Engliſh Kilne being compoſed of wood, lath, and clay, and therefore ſubject to ſome danger of fire, the French, of bricke, lime, and ſand, and therefore ſafe, cloſe, and without all perill, and to be preferred much before the other: yet becauſe I have heareafter more occaſion to ſpeake of the nature, faſhion, and edifice of Kilnes in that part of this Volume where I intreate of Malting, I will ceaſe further to mention them, then to ſay that upon a Kilne is the beſt drying your Hoppes, after this manner, having finely bedded your Kilne with Wheate-ſtraw, you ſhall lay on your hayre cloath, although ſome diſallow it, but give no reaſon therefore, yet it cannot bee hurtfull in any degree, for it neither diſtaſteth the Hoppes, nor defendeth them from the fire, making the worke longer then it would, but it preſerveth both the Hoppes from filthineſſe, and their ſeede from loſſe: when your hayre-cloath is ſpread, you ſhall cauſe one to deliver you up your Hoppes in baskets, which you ſhall ſpread upon the cloath, all over the Kilne, at the leaſt eight inches thicke, and then comming downe, and going to the hoale of the Kilne, you ſhall with a little dry ſtraw kindle the fire, and then maintaining it with more ſtraw, you ſhall keepe a fire a little more fervent then for the drying of a kilne full of Malt, being aſſured that the ſame quantitie of fuell, heate, and time, which dryeth a kilne-full of Malt, will alſo dry a kilne-full of Hoppes, and if your Kilne will dry twentie ſtrikes, or buſhells of Malt at one drying, then it will dry forty of

Hops,

Hoppes, becauſe being laid much thicker the quantitie can be no leſſe then doubled, which is a ſpeed all together ſufficient, and may very well ſerve to dry more Hops then any one man hath growing in this kingdome.

Now, for as much as ſome men doe not allow to dry Hoppes with ſtraw, but rather preferre wood, and of wood ſtill to chuſe the greeneſt, yet I am of a contrary opinion, for I know by experience that the ſmoake which proceedeth from wood (eſpecially if it bee greene wood) being a ſtrong and ſharpe vapour, doth ſo taint and infect the Hoppes, that when thoſe Hoppes come to be brewed with, they give the drinke a ſmoakie taſte, even as if the Malt it ſelfe had beene wood-dryed: the unpleaſantneſſe whereof I leave to the judgement of them that have travelled in *Yorke-ſhiere*, where for the moſt part, is nothing but wood-dryed Malt onely.

That you may know when your Hoppes are dry enough, you ſhall take a ſmall long ſticke, and ſtirring the Hops too and fro with it, if the Hoppes doe ruſſell and make a light noyſe, each as it were ſeparating one from another, then they are altogether dry enough, but if in any part you find them heavie or glewing one to another, then they have not enough of the fire: alſo when they are ſufficiently and moderately dryed they are of a bright-browne colour, little or nothing altered from that they held when they were upon the ſtalke, but if they be over dryed, then their colour will be red: and if they were not well ordered before they were dryed, but ſuffered either to take wet or mould, then they will looke blaeke when they are dry.

Of the drying Hoppes.

There be ſome which are of opinion, that if you doe not dry your hoppes at all, it ſhall be no loſſe, but it is an errour moſt groſſe, for if they be not dryed, there is neither profit in their uſe, nor ſafety in preſerving them.

As ſoone as your hoppes are ſufficiently dryed, you ſhall by the plucking up of the foure corners of your haire-cloath thruſt all your hoppes together, and then putting them into baskets, carry them into ſuch dry places as you

have prepared of purpose to lay them in, as namely, either in dry-fats, or in garners, made either of plaster, or boards: and herein you shall observe to packe them close and hard together, which will be a meanes that if any of them bee not dry, yet the heate they shall get by such lying will dry them fully and make them fit for service.

Of packing Hoppes.

Now to conclude, if your store of Hoppes bee so great that you shall trade or make Merchandize of them, then either to convay them by land or Sea, it is best that you packe them into great bagges of canvas, made in fashion of those bagges which wooll-men use, and call them pockets, but not being altogether so large: these bags you shall open, and either hang up betweene some crosse beames, or else let down into some lower floare, and then putting in your Hops cause a man to goe into the bagge and tread downe the Hops, so hard as is possible, pressing downe basket-full after basket-full, till the bagge bee filled, even unto the top, and then with an extraordinary pack-thrid, sowing the open end of the bag close together, let every hollow place bee crammed with Hops, whilst you can get one hand-full to goe in, and so having made every corner strong and fast, let them lye dry till you have occasion either to ship or cart them. And thus much for the ordering of Hoppes and their uses.

CHAP. XV.

The office of the Gardiner, and first of the Earth, Situation, and fencing of a Garden for pleasure.

THere is to be required at the hands of every perfect Gardiner three especiall vertues, that is to say, *Diligence*, *Industry*, and *Art*: the two first, as namely, *Diligence* (under which word I comprehend his love, care, and delight in the vertue hee professeth) and *Industry* (under which word I conclude his labour, paine, and study, which are the onely testimonies of

of his perfection) he must reape from Nature: for, if he be not inclined, even from the strength of his blood to this love and labour, it is impossible he should ever prove an absolute Gardiner: the latter, which containeth his skill, habit, and understanding in what he professeth, I doubt not but he shall gather from the abstracts or rules which shall follow hereafter in this Treatise, so that where nature, and this worke shall concurre in one subject, there is no doubt to be made, but the professor shall in all points, bee able to discharge a sufficient dutie.

Now, for as much as all our ancient and forraine writers (for wee are very slightly beholding to our selves for these indeavours) are exceeding curious in the choise of earth, and situation of the plot of ground which is meete for the garden: yet I, that am all English Husbandman, and know our soyles out of the worthinesse of their owne natures doe as it were rebell against forraine imitation, thinking their owne vertues are able to propound their owne rules: and the rather when I call into my remembrance, that in all the forraine places I have seene, there is none more worthy then our owne, and yet none ordered like our owne, I cannot be induced to follow the rules of *Italy*, unlesse I were in *Italy*, neither those of *France*, unlesse I dwelt in *France*, nor those of *Germany*, except in *Germany* I had my habitation, knowing that the too much heate of the one, or the too much coldnesse of the other, must rather confound then helpe in our temperate climate: whence it comes, that our English booke-knowledge in these cases is both disgraced and condemned, every one sayling in his experiments, because he is guided by no home bred, but a stranger; as if to read the English tongue there were none better then an Italian Pedant. This to avoid, I will neither begge ayde nor authority from strangers, but reverence them as worthies and fathers of their owne Countries.

To speake therefore first of the ground which is fit for the Garden, albeit the best is best worthy, the labour least, and the profit most certaine, yet it is not meete that you Of the ground.

refuse

refuse any earth whatsoever, both because a garden is so profitable, necessary, and such an ornament and grace to every house and house-keeper, that the dwelling place is lame and maimed if it want that goodly limbe, and beauty. Besides, if no gardens should bee planted but in the best and richest soyles, it were infinite the losse wee should sustaine in our private profit, and in the due commendations, fit for many worthy workemen, who have reduced the worst and barrennest earthes to as rare perfection and profit as if they had beene the onely soyles of this kingdome: and for mine owne part, I doe not wonder either at the worke of Art, or Nature, when I behold in a goodly, rich and fertill soyle, a Garden adorned with all the delights and delicacies which are within mans understanding, because the naturall goodnesse of the earth (which not enduring to bee idle) will bring forth whatsoever is cast into her: but when I behold upon a barren, dry, and dejected earth, such as the Peake-hils, where a man may behold snow all Summer, or on the East-mores, whose best hearbage is nothing but mosse, and iron stone, in such a place, I say, to behold a delicate, rich, and fruitfull Garden, it shewes great worthinesse in the owner, and infinite art and industry in the workeman, and makes mee both admire and love the begetters of such excellencies.

But to returne to my purpose touching the choise of your earth for a Garden, sith no house can conveniently bee without one, and that our English Nation is of that great popularitie, that not the worst place thereof but is abundantly inhabited, I thinke it meete that you refuse no earth whatsoever to plant your Garden upon, ever observing this rule, that the more barren it is, the more cost must be bestowed upon it, both in manuring, digging, and in trenching, as shall bee shewed hereafter, and the more rich it is, lesse cost of such labour, and more curiosity in weeding, proyning, and trimming the earth: for, as the first is too slow, so the latter is too swift, both in her increase and multiplication.

Now

Now, for the knowledge of soyles, which is good, and which is bad, I have spoken sufficiently already in that part, which intreateth of Tillage, onely this one caveat I will give you, as soone as you have markt out your garden-plot, you shall turne up a sod, and taking some part of the fresh mould, champe it betweene your teeth in your mouth, and if it taste sweetish then is the mould excellent good and fit to receive either seeds or plants, without much manuring, but if it taste salt or bitter, then it is a great signe of barrennesse, and must of necessitie be corrected with Manure: for saltnesse sheweth much windinesse, which choaketh and stifleth the seede, and bitternesse that unnaturall heat which blasteth it before it sprout.

Of the situation.

Now, for the situation of the Garden-plot for pleasure, you shall understand that it must ever bee placed so neare unto the dwelling house as is possible, both because the eye of the owner may bee a guard and support from inconveniences, as also that the especiall roomes and prospects of the house may bee adorned, perfumed, and inriched, with the delicate proportions, odoriferous smels, and wholsome ayres which shall ascend and vaporate from the same, as may more amply bee seene in that former Chapter, where modelling forth the Husbandmans house, I shew you the site and place for his Garden, onely you must diligently observe that neare unto this Garden doe not stand any hovells, stackes of hay, or Corne, which over-peering the walls or fence of the same, may by reason of winde, or other occasion, annoy the same with straw, chaffe, seeds, or such like filthinesse, which doth not only blemish the beauty thereof, but is also naturally very hurtfull and cankerous, to all plants whatsoever. Within this Garden-plot would bee also either some Well, Pumpe, Conduit, Pond, or Cesterne for water, sith a Garden, at many times of the yeare, requireth much watering: and this place for water you shall order and dispose according to your ability, and the nature of the soyle, as thus: if both your reputation, and your wealth bee of the lowest account, if then your garden

afford you a plaine Well, comely covered, or a plaine Pumpe, it shall be sufficient, or if for want of such springs you digge a faire Pond in some convenient part thereof, or else (which is much better) erect a Cisterne of leade, into which by pipes may descend all the raine-water which falls about any part of the house; it will serve for your purpose: but if God have bestowed upon you a greater measure of his blessings, both in wealth and account, if then instead of either Well, Pumpe, Pond, or Cisterne, you erect Conduits, or continuall running Fountaines, composed of Antique workes, according to the curiositie of mans invention, it shall bee more gallant and worthy: and these Conduits or water-courses, you may bring in Pipes of leade from other remote or more necessary places of water springs, standing above the levell of your Garden, as every Artist in the profession of such workes can more amply declare unto you, onely for mee let it bee sufficient to let you understand that every Garden would bee accompanied with water.

Also you shall have great care that there adjoyne not unto your Garden-plot any common-shewers, stinking or muddy dikes, dung-hils, or such like, the annoyance of whose smels and evill vapours doth not onely corrupt and breede infection in man, but also cankereth, killeth and consumeth all manner of plants, especially those which are most pleasant, fragrant, and odoriferous, as being of tendereſt nature and qualitie: and for this cause divers will not allow the moting of garden-plots about, imagining that the over great moistnesse thereof, and the strong smels which doe arise from the mud in the Summer season, doe corrupt and putrifie the herbes and plants within the compasse of the same, but I am not altogether of that opinion, for if the water be sweet, or the channell thereof sandy or gravelly, then there is no such scruple to be taken: but if it be contrary, then it is with all care to bee avoyded, because it is ever a Maxime in this case, that your Garden-plot must ever bee compassed with the pleasanteſt and sweeteſt ayre that may be.

The

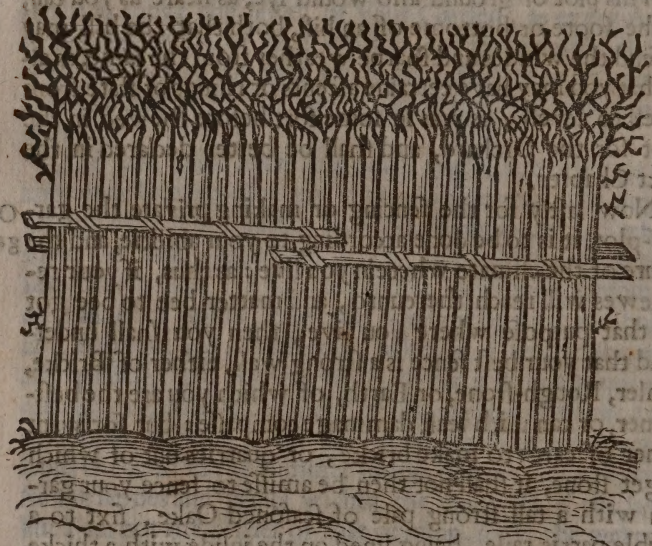
The windes which you ſhall generally defend from your Garden, are the Eaſterne windes and the Northerne, becauſe they are ſharpeſt, coldeſt, and bring with them tempers of moſt unſeaſonableneſſe, and albeit in *Italy*, *Spaine*, and ſuch like hot Countreyes, they rather defend away the Weſterne and Southerne winde, giving free paſſage to the Eaſt and North, yet with *England* it may not be ſo, becauſe the naturall coldneſſe of our climate is ſufficient without any aſſiſtance to further bitterneſſe, our beſt induſtry being to bee imployed rather to get warmth, which may nouriſh and bring forth our labours, then any way to diminiſh or weaken the ſame.

This plot of ground alſo would lye, as neare as you can, at the foote or bottome of an hill, both that the hill may defend the windes and ſharpe weather from the ſame, as alſo that you may have certaine aſcents or riſings of ſtate, from levell to levell, as was in ſome ſort before ſhewed in the plot for the Orchard, and ſhall be better declared in the next Chapter.

Of fencing the garden.

Now laſtly for the fencing or making private the garden-plot, it is to be done according to your abilitie, and the nature of the climate wherein you live: as thus, if your revenewes will reach thereunto, and matter bee to bee got for that purpoſe where you live, then you ſhall underſtand that your beſt fence is a ſtrong wall, either of Bricke, Aſhler, Rough-ſtone, or Earth, of which you are the beſt-owner, or can with leaſt dammage compaſſe: but for want either of earth to make bricke, or quarries out of which to get ſtone, it ſhall not then be amiſſe to fence your garden with a tall ſtrong pale of ſeaſoned Oake, fixt to a double parris raile, being lined on the inſide with a thicke quick-ſet of White-thorne, the planting whereof ſhall be more largely ſpoken of where I intreate of fencing onely. But if the place where you live in, be ſo barraine of timber that you cannot get ſufficient for the purpoſe, then you ſhall make a ſtudde wall, which ſhall be ſplinted,

and lomed both with earth and lime, and haire, and copt upon the toppe (to defend away wet) either with tile, ſlate, or ſtraw, and this wall is both beautifull, and of long continuance, as may be ſeene in the moſt parts of the South of this kingdome. but if either your poverty or climate doe deny you timber for this purpoſe, you ſhall then firſt make a ſmall trench round about your Garden-plot, and ſet at leaſt foure rowes of quicke-ſet of white-Thorne, one above another, and then round about the out-ſide, to defend the quicke-ſet, make a tall fence of dead wood, being either long, ſmall, bruſhy poles prickt into the earth, and ſtanding upright, and ſo bound together in the waſte betweene two other poles, according to the figure ſet downe



being ſo high that not any kind of Pullen may flie over the ſame, or elſe an ordinary hedge of common wood, being beirded upon the top with ſharpe Thornes, in ſuch wiſe that not any thing may dare to adventure over it: and

this

this dead fence you ſhall repaire and maintaine as occaſion ſhall require from time to time, till your quick ſet bee growne up, and by continuall plaſhing and interfouldings, be made able and ſufficient to fence and defence your garden, which will be within five or ſeaven yeares at the moſt, and ſo continue with good order for ever. And thus much for the ſituation of gardens.

CHAP. XVI.

Of the faſhion of the garden-plot for pleaſure, the Alleyes, Quarters, Digging and Dunging of the ſame.

AFter you have choſen out and fenced your garden-plot, according as is before ſaid, you ſhall then begin to faſhion and proportion out the ſame, ſith in the convayance remaineth a great part of the gardiners Art. And herein you ſhall underſtand that there be two formes of proportions belonging to the garden, the firſt, onely beautifull, as the plaine, and ſingle ſquare, contayning onely foure quarters, with his large Alleyes every way, as was deſcribed before in the Orchard: the other both beautifull and ſtately, as when there is one, two or three levelled ſquares, each mounting ſeaven or eight ſteppes one above another, and every ſquare contayning foure ſeverall Quarters with their diſtinct and ſeverall Alleyes of equall breadth and proportion; placing in the center of every ſquare, that is to ſay, where the foure corners of the foure quarters doe as it were neighbour and meet one another, either a Conduit of anticke faſhion, a Standard of ſome unuſuall deviſe, or elſe ſome Dyall, or other Pyramid, that may grace and beautifie the garden. And herein I would have you underſtand that I would not have you to caſt every ſquare into one forme or faſhion of Quarters or Alleyes, for that would ſhew little variety

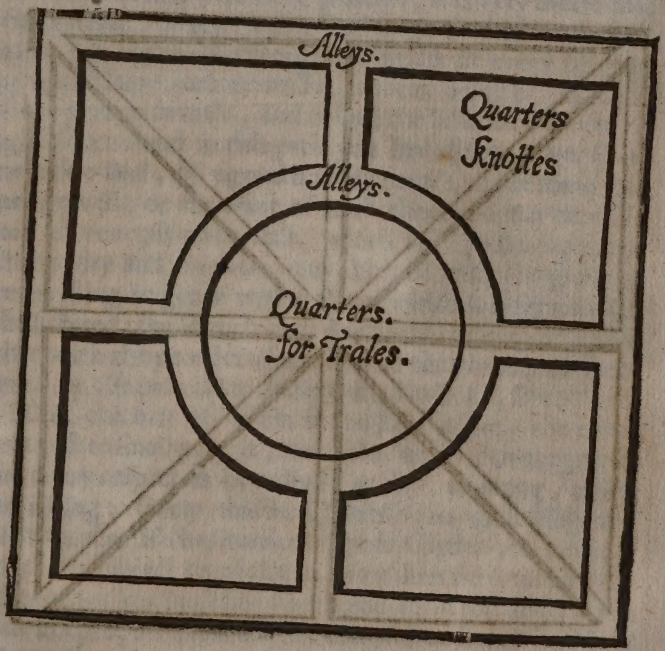
The faſhion.

or invention in Art, but rather to caſt one in plaine Squares, another in Triangulars, another in Roundalls, and ſo a fourth according to the worthineſſe of conceite, as in ſome ſort you may behold by theſe figures, which queſtionleſſe when they are adorned with their ornaments, will breede infinite delight to the beholders.

The Plaine Square.

The

The Square Triangular or Circular.



The

The Square of eight Diamonds.

From

From the modell of these Squares, Triangles, and Rounds, any industrious braine may with little difficulty derive and fashion to Himselfe divers other shapes and proportions, according to the nature and site of the earth, which may appeare more quaint and strange then these which are in our common use, albeit these are in the truth of workemanship the perfect father and mother of all proportions whatsoever.

The ordering of Alleyes.

Now, you shall understand that concerning the Alleyes and walkes in this Garden of pleasure, it is very meete that your ground, being spacious and large (which is the best beauty) that you cut through the midst of every Alley an ample and large path or walke, the full depth of the roote of the greene-swarth, and at least the breadth of seven or eight foote: and in this path you shall strow either some fine redde-sand, of a good binding nature, or else some fine small gravell, or for want of both them you may take the finest of your pit-coale-dust, which will both keepe your Alleyes dry and smooth, and also not suffer any grasse or greene thing to grow within them, which is disgracefull, if it be suffered: the French-men doe use to cover their Allies, either with the powder of marble, or the powder of slate-stone, or else pave them either with Pit-stone, Free-stone, or Tiles, the first of which is too hard to get, the other great cost to small purpose, the rather sith our owne gravell is in every respect as beautifull, as dry, as strong, and as long lasting: Onely this heedfulnesse you must diligently observe, that if the situation of your Garden-plot bee low and much subject to moisture, that then these middle-cut pathes or walkes must bee heightned up in the midst, and made in a proportionall bent or compasse: wherein you shall observe that the out most verges of the walke must bee levell with the greene-swarth which holded in each side, and the midst so truely raised up in compasse, that the raine which falles may have a passage to each side of the greene-swarth. Now, the lesse this compasse is made, (so it avoyd the water, and remaine hard) the better it is, be-

cause by that meanes both the eye shall be deceived (which shewes art in the workeman) and the more levell they are, the more ease unto them which shall continually walke upon them.

Objection. Now, if any shall object, why I doe not rather covet to have these Alleyes or walkes rather all greene, then thus cut and devided, sith it is a most beautifull thing to see a pleasant greene walke, my answer is this, that first the mixture of colours, is the onely delight of the eye above all other: for beauty being the onely object in which it joyeth, that beauty is nothing but an excellent mixture, or consent of colours, as in the composition of a delicate woman the grace of her cheeke is the mixture of red and white, the wonder of her eye blacke and white, and the beauty of her hand blew and white, any of which is not said to be beautifull if it consist of single or simple colours: and so in these walkes or Alleyes, the all greene, nor the all yellow cannot be said to bee most beautifull, but the greene and yellow, (that is to say the untroade grasse, and the well knit gravell) being equally mixt, give the eye both luster and delight beyond all comparison.

Againe, to keepe your walkes all greene, or grassy, you must of force either forbeare to tread upon them (which is the use for which they were onely fashioned) or treading upon them you shall make so many pathes and ill favored wayes as will be most ugly to the eye: besides the dew and wet hanging upon the grasse will so annoy you, that if you doe not select especiall houres to walke in, you must provide shooes or boots of extraordinary goodnesse: which is halfe a deprivement of your liberty, whereas these things of recreation were created for a contrary purpose.

Now, you shall also understand that as you make this sandy and smooth walke through the midst of your Allies, so you shall not omit but leave as much greene-swarth, or grasse ground of each side the plaine path as may fully countervaile the breadth of the walke, ss thus for example: if your sandy walke bee sixe foote broad, the grasse ground

ground of each side it, shall be at least sixe foote also, so that the whole Alley shall be at least eighteene foote in breadth, which will be both comely and stately.

Of the Quarters.

Your Alleyes being thus proportioned and set forth, your next worke shall be the ordering of your Quarters, which as I sayd before, you may frame into what proportions you please, as into Squares, Triangles, and Rounds, acording to the ground, or your owne invention: and having marked them out with lines, and the Garden compasse, you shall then beginne to digge them in this manner: first, with a paring Spade, the fashion whereof is formerly shewed, you shall pare away all the greene-swarth, fully so deepe as the roote of the grasse shall goe, and cast it away, then with other digging Spades you shall digge up the earth, at least two foote and a halfe, or three foote deepe, in turning up of which earth, you shall note that as any rootes of weedes, or other quickes shall bee raised or stirred up, so presently with your hands to gather them up, and cast them away, that your mould may (as neare as your diligence can performe it) bee cleane from either wilde roots, stones, or such like offences: and in this digging of your Quarters you shall not forget, but raise up the ground of your Quarters at least two foote higher then your Alleyes, and where by meanes of such raisure, you shall want mould, there you shall supply that lacke by bringing mould or cleane earth from some other place, where most conveniently you may spare it, that your whole Quarter being digged all over, it may rise in all parts alike, and carry an orderly and well proportioned levell through the whole worke.

Of Dunging.

The best season for this first digging of your Garden mould is in *September*: and after it is so digged and roughly cast up, you shall let it rest till the latter end of *November*, at what time you shall digge it up againe, in manner as aforesaid, onely with these additions, that you shall enter into the fresh mould, halfe a Spade-graft deeper then before; and at every two foote breadth of ground, en-

larging the trench both wide and deepe, fill it up with the oldeſt and beſt Oxe or Cow Manure that you can poſsibly get, till ſuch time that increaſing from two foote to two foote, you have gone over and Manured all your quarters, having a principall care that your Dung or Manure lye both deepe and thicke, in ſo much that every part of your mould may indifferently partake and bee inriched with the ſame Manure.

Diverſitie of Manures.

Now, you ſhall underſtand that although I doe particularly ſpeake but of Oxe or Cow Manure, becauſe it is of all the fatteſt and ſtrongeſt, eſpecially being old, yet their are divers reſpects to bee had in the Manuring of Gardens: as firſt, if your ground bee naturally of a good fat blacke, and well tempered earth, or if it bee of a barren, ſandy, hot, yet firme mould, that in either of theſe caſes your Oxe, Cow, or beaſt Manure is the beſt and moſt ſufficient, but if it be of a cold, barren, or ſpewing mould, then it ſhall be good to mixe your Oxe-dung with Horſe-dung, which ſhall bee at leaſt two yeares olde if you can get it, otherwiſe ſuch as you can compaſſe: if your ground be good and fertil, yet out of his drines in the ſummer time it be given to rive and chap as is ſeene in many earthes, you ſhall then mixe your Oxe-dung well with aſhes, orts of Lime, and ſuch like: laſtly, if your earth bee too much binding and cold therewithall, then mixe your Oxe-dung with chalke or Marle, and it is the beſt Manure. And thus much for the generall uſe of earthes.

Now, for particular uſes you ſhall underſtand, that for Hearbs or Flowers, the Oxe and Horſe-dung are the beſt, for rootes or Cabbages, mans ordure is the beſt, for Harty-chockes, or any ſuch like thiſtly fruit, Swines-dung is moſt ſufficient, and thus according to your ſetled determination you ſhall ſeverally provide for every ſeverall purpoſe, and ſo, God aſſiſting, ſeldome faile in your profit. And this dunge you ſhall bring into your Garden in little drumblars or wheele-barrowes, made for the purpoſe, ſuch as being in common uſe in every Husbandmans yard it

ſhall

shall be needlesse here either to shew the figure or proportion thereof. And thus much for the fashion, of digging and dunging of gardens.

CHAP. XVII.

Of the adornation and beautifying of the Garden for pleasure.

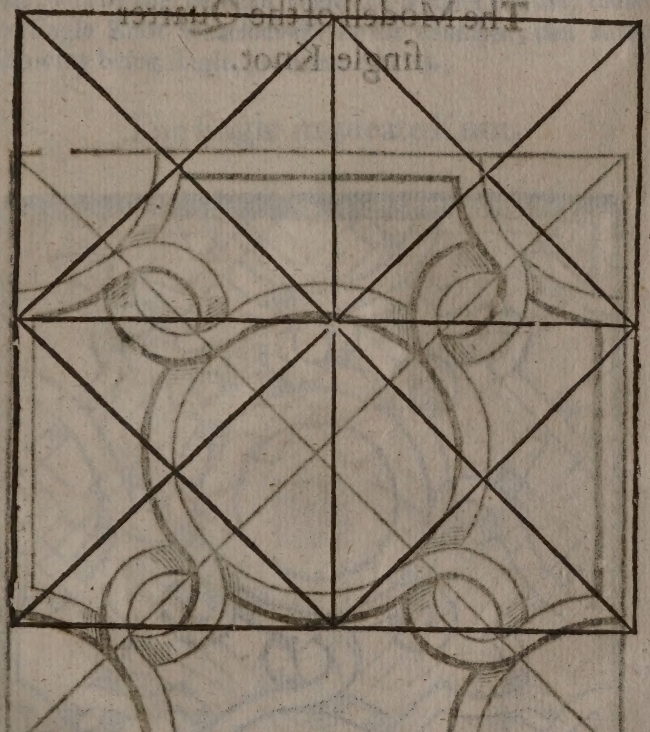
THE adornation and beautifying of gardens is not onely divers but almost infinite, the industry of mens braines hourely begetting and bringing forth such new garments and imbroydery for the earth, that it is impossible to say, this shall be singular, neither can any man say, that this or that is the best, sith as mens tastes so their fancies are carried away with the varietie of their affections, some being pleased with one forme, some with another: I will not therefore give preheminence to any one beauty, but describing the faces and glories of all the best ornaments generally or particularly used in our English gardens, referre every man to the election of that which shall best agree with his fancie.

To beginne therefore with that which is most ancient and at this day of most use amongst the vulgar though least respected with great ones, who for the most part are wholly given over to novelties: you shall understand that Knots and Mazes were the first that were received into admiration, which Knots or Mazes were placed upon the faces of each severall quarter, in this sort: first, about the verge or square of the quarter was set a border of Primpe, Boxe, Lavandar, Rose-mary, or such like, but Primpe or Boxe is the best, and it was set thicke, at least eighteene inches broad at the bottome, and kept with Of Knots and Mazes.

clipping both ſmooth and levell on the toppe and on each ſide; thoſe borders as they were ornaments, ſo were they alſo very profitable to the Huswife for the drying of linnen clothes, yarne, and ſuch like: for the nature of Boxe and Primpe being to grow like a hedge, ſtrong and thicke together, the Gardiner with his ſheares, may keepe it as broad and plaine as himſelfe liſteth. Within this border ſhall your knot or maze bee drawne, it being ever intended that before the ſetting of your border your quarter ſhall bee the third time digged, made exceeding levell, and ſmooth, without clot or ſtone, and the Mould with your Garden Rake of Iron, ſo broken that it may lye like the fineſt aſhes, and then with your Garden Mauls, which are broad boards of more then two foote ſquare ſet at the ends of ſtrong ſtaves, the earth ſhall bee beaten ſo hard and firme together, that it may beare the burden of a man without ſhrinking. And in the beating of the Mould you ſhall have all diligent care that you preſerve and keepe your levell to a haire, for if you faile in it, you faile in your whole worke.

The

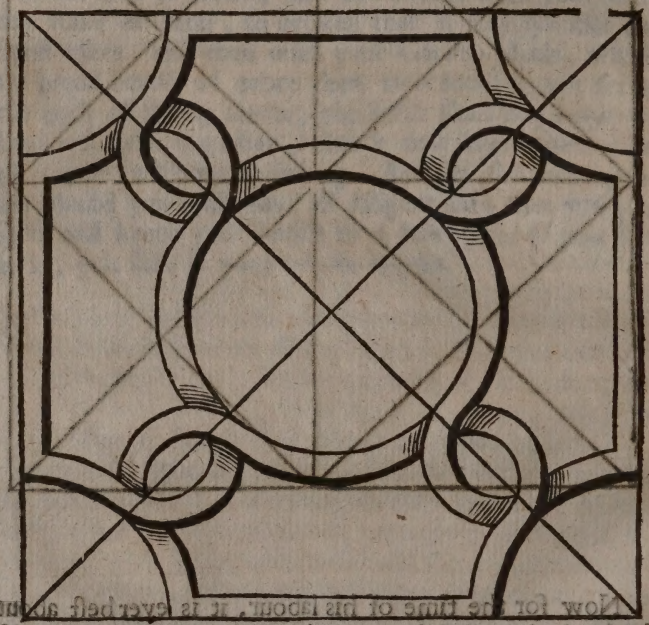
The Modell of drawing lines to frame all single Knots.



Now for the time of his labour, it is ever best about the beginning of *February*, and indifferent about the midst of *October*, but for the setting of your Primpe, or Boxe-border, let the beginning of *November* be your latest time, for so shall you be sure that it will have taken roots, and the leafe will flourish in the Spring following: at which time your

your ground being thus artificially prepared, you shall begin to draw forth your Knot in this manner: first, with lines you shall draw the forme of the figure next before set downe, and with a small instrument of yron make it upon the earth.

The Modell of the Quarter single Knot.



Which done, from the order and proportion of these lines you shall draw your single knots or plaine knots of the least curiositie

curiositie, as may appeare by this figure, being one quarter of the whole Knot: ever proportioning your Trayles and windings according to the lines there described, which will keepe your worke in just proportion, as you may perceive by this Figure, which being but the fourth part of a compleate Knot, by adding the other three parts unto it, it will appeare an exact Knot, though but a single Knot; and in this wise, and by the helpe of these single lines you may draw any single Knot whatsoever: as for example, this Knot following being single, yet more curious.

The single impleate Knot.

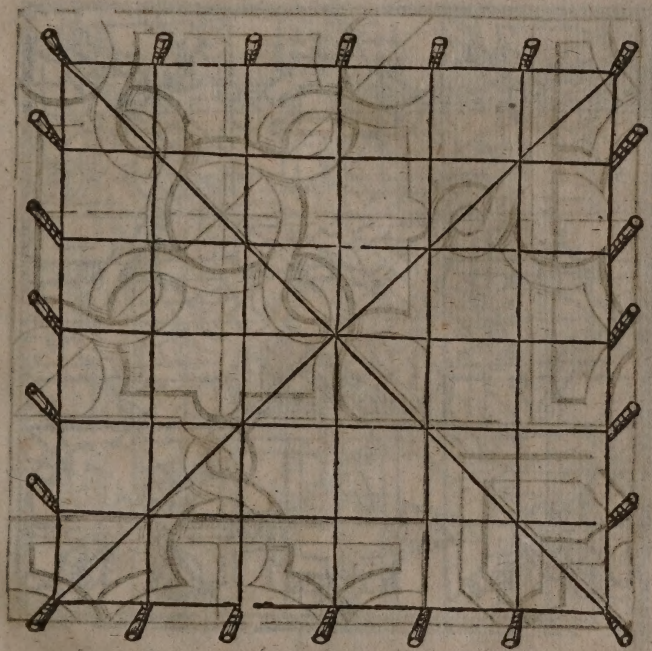
Or this compoſed of Diamonds.

The Diamond Knot.

But

But if you desire to have Knots of much more curiositie being more double and intricate, then you shall draw your first lines after this proportion here figured, pinning downe every line firme to the earth with a little pinne made of wood.

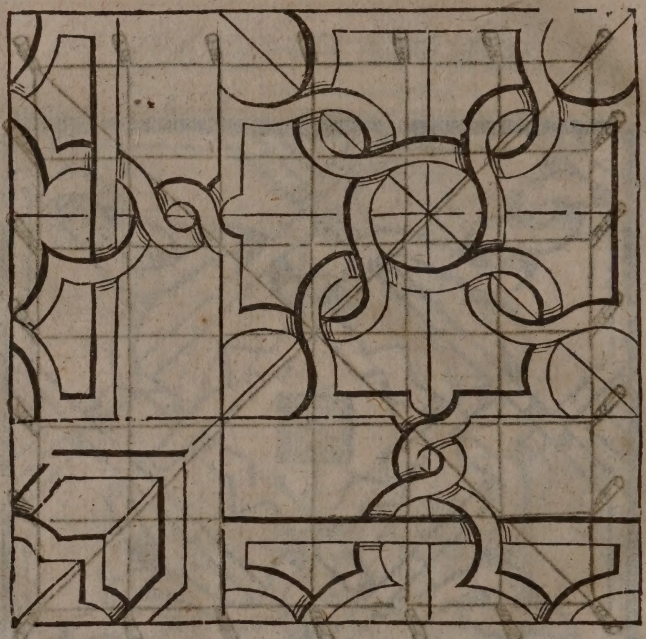
The Modell of drawing lines for all Double Knots.



Which done you shall draw your double and curious Knots after the manner of the figure following, which is also but one quarter of the whole Knot, for looke in what

manner you doe one Knot, in like sort will the other three quarters succeed, your lines keeping you in a continuall even proportion.

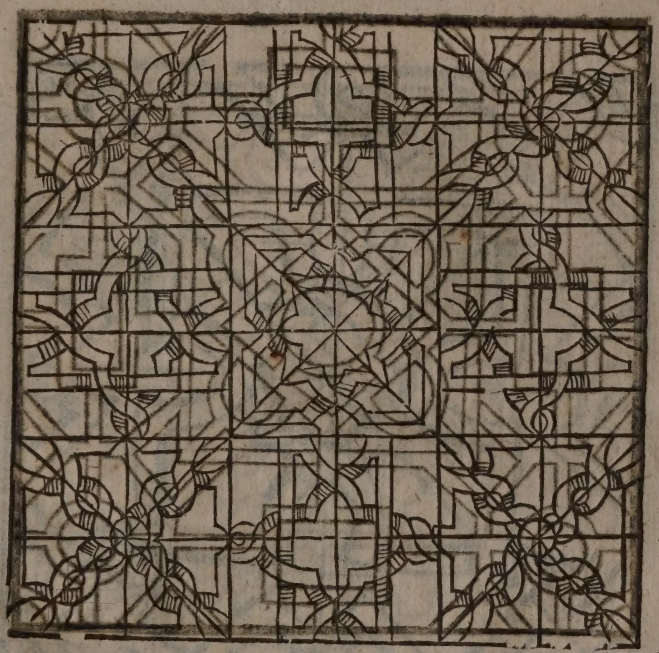
The quarter Double Knot.



And in this manner as you draw these quarters of Knots, so you may draw out the whole Knots also, as this which consisteth of straight and direct forth right lines.

The

The Knot of Straight lines.



Or this which is more ſtraight and more dilated, and made more plaine, both to the eye and the hand of the Worke-man.

Another more ſtraight.

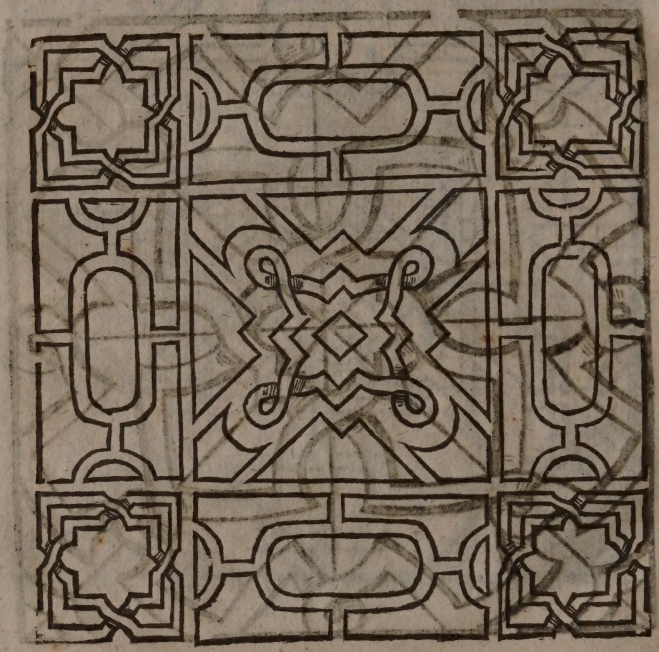
Next these I place your mixed Knots, which consist partly of Straight Lines, partly of Crosse, partly Diamond, and partly Diameter: as for example, this Knot following wherein all sorts of Lines are expressed.

The plaine mixed Knot.

Or

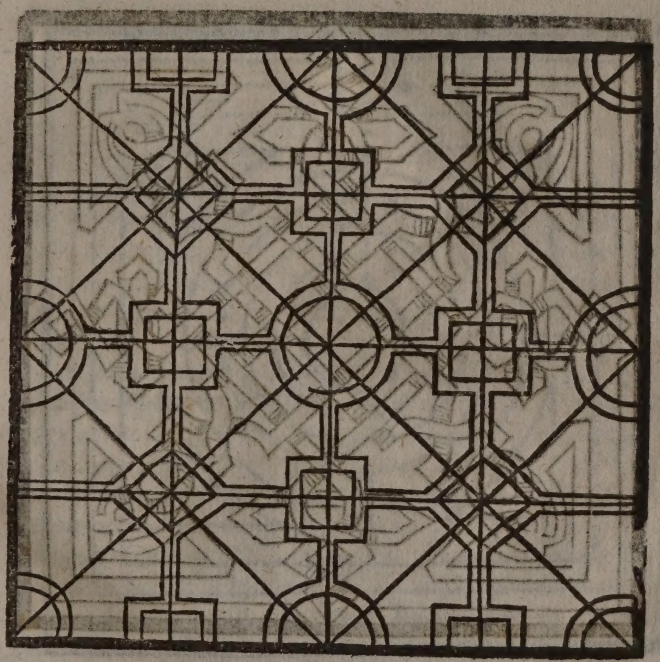
Or this which as it is straight and diamond, so it is also circular and round, and indeed carrieth in it a great deale of excellent art.

The Knot Direct and Circular.



Next these I place your simple, single Diamond Knots being no lesse beautifull in Gardens, then any of the other before shewed, especially when they are mixt both with Rounds and Squares, as you may see in this figure following.

The single Diamond Knot with rounds and squares.



Lastly, I recommend unto you this Double Diamond Knot, being altogether diamond, and pointed cleane throughout without any Rounds or direct straight Lines, as appeareth by this figure following.

The double Diamond Knot.

With

With the like helpes and lines alſo you ſhall draw out your Mazes, and Laborinths, of what ſort or kind ſoever you pleaſe, whether they be round or ſquare, according to the proportion of this Modell following, which albe it be round, which is moſt curious and hard, yet you may at pleaſure by direct lines make them ſquare, diamond, or of any other proportion.

The Maze.

Now, as ſoone as you have drawne forth and figured your knot upon the face of your quarter, you ſhall then ſet it either with Germander, Hiſſop, Time, or Pinke-Gilly-

Gilly-flowers, but of all hearbes Germander is the most principall best for this purpose: divers doe use in knots to set Thrift, and in time of need it may serve, but it is not so good as any of the other, because it is much subject to bee slaine with frost, and will also spread upon the earth in such sort, that without very painefull cutting, it will put your knot out of fashion.

Now there is another beautifying or adorning of Gardens, and it is most generally to be seene in the Gardens of Noblemen and Gentlemen, which may beare coate-armor, and that is, instead of the Knots and Mazes formerly spoken of, to draw upon the faces of your Quarters such Armes, or Ensignes, as you may either beare your selfe, or will preserve for the memory of any friend: and these armes being drawne forth in plaine lines, you shall set those plaine shadowing lines either with Germander, Hissop, or such like hearbes: and then for the more ample beautie thereof, if you desire to have them in their proper and lively colours (without which they have but one quarter of their luster) you shall understand that your colours in Armory are thus to be made. First, for your mettals: you

Yellow. shall make your Yellow, either of a yellow clay, usually to bee had almost in every place, or the yelloweſt sand, or for want of both, of your Flanders tile, which is to be

White. bought of every Iron-munger or Chandelor; and any of these you must beate to dust: for your White you shall make it of the courseſt chalke beaten to dust, or of well-burnt plaister, or, for necessitie, of lime, but that will soone decay:

Blacke. your Blacke is to bee made of your best and pureſt coale-

Red. dust, well cleansed and sifted: your Red is to bee made of

Blew. broken useleſſe brickes beaten to dust, and well cleansed from spots: your Blew is to be made of white-chalke, and blacke coale-dust mixed together, till the blacke have

Greene. brought the white to a perfect blewnes: lastly your Greene, both for the naturall property belonging to your Garden, as also for better continuance and long lasting, you shall make of Camomill, well planted where any such colour is

to be used, as for the rest of the colours, you shall sift them, and strew them into their proper places, and then with a flat beating-beetle you shall beate it, and incorporate it with the earth, and as any of the colours shall decay, you shall diligently repaire them, and the luster will be most beautifull.

There is also another beautifying of Gardens, which although it last not the whole yeare, yet it is most quaint, rare, and best eye pleasing, and thus it is: you shall upon the face of your quarter draw a plaine double knot, in manner of Billet-wise: for you shall understand that in this case the plainest knot is the best, and you shall let it bee more then a foot betwixt line and line (for in the largenesse consists much beauty) this Knot being scored out, you shall rake Tiles, or tileshreds, and fixe them within the lines of your knot strongly within the earth, yet so as they may stand a good distance above the earth, and this doe till you have set out all your knot with Tile: then precisely note the severall passages of your knot, and the severall thrids of which it consisteth, and then betwixt your tiles, (which are but as the shadowing lines of your knot) plant in every severall thrid, flowers of one kinde and colour, as thus for example: in one thrid plant your carnation Gilly-flower, in another your great white Gilly-flower, in another your mingle-coloured Gilly-flower, and in another your bloud-red Gilly-flower; and so likewise if you can compasse them you may in this sort plant your severall coloured Hyacinths, as the red, the blew, and the yellow, or your severall coloured *Dulippos*, and many other Italian and French flowers: or you may, if you please, take of every severall plant one, and place them as aforesaid; the grace of all which is, that so soone as these flowers shall put forth their beauties, if you stand a little remote from the knot, and any thing above it, you shall see it appeare like a knot made of divers coloured Ribans, most pleasing and most rare.

Many other adornations and beautifying there are which belong to the setting forth of a curious Garden, but

foraſmuch as none are more rare or more eſteemed then theſe I have ſet downe, being the beſt ornaments of the beſt Gardens of this kingdome, I thinke them taſtes ſufficient for every Husbandman, or other of better quality which delighteth in the beauty and well trimming of his ground.

CHAP. XVIII.

How for the entertainment of any great Perſon, in any Parke, or other place of pleaſure, where Summer-bowers are made, to make a compleat Garden in two or three dayes.

IF the honeſt Engliſh Husbandman, or any other, of what quallity ſoever, ſhall entertaine any Noble perſonage, to whom hee would give the delight of all ſtrange contentment, either in his Parke, or other remote place of pleaſure neere unto Ponds, Rivers, or other waters of cleereneſſe, after he hath made his Arbors and Summer-bowers to feaſt in, the faſhion whereof is ſo common that every labourer can make them, he ſhall then marke out his Garden-plot, beſtowing ſuch ſleight fence thereon as he ſhall thinke fit: then he ſhall caſt forth his alleyes, and devide them from his quarters, by paring away the greene-ſwarth with a paring Spade, finely, and even, by a direct line (for a line muſt ever be uſed in this worke) then having ſtore of labourers (after the upper-moſt ſwarth is taken away) you ſhall caſt up the quarters, and then breaking the mould and levelling it, you ſhall make ſad the earth againe, then upon your quarters you ſhall draw forth either Knots, Armes, or any other deviſe which ſhall be beſt pleaſing to your fancie, as either knots with ſingle or double trayles, or other emblemicall deviſe, as Birds, Beaſts, and ſuch like: and in your knots where you ſhould plant hearbes, you ſhall take greene-ſods of the richeſt graſſe, and cutting it proportionably to the knot, making

making a fine trench, you shall lay in your sod, and so joyning sod to sod close and artificially, you shall set forth your whole knot, or the portrayture of your armes, or other devise, and then taking a cleane broome that hath not formerly been swept withall, you shall brush all uncleanesse from the grasse, and then you shall behold your knot as compleat, and as comely as if it had beene set with hearbes many yeares before. Now for the portrayture of any living thing, you shall cut it forth, joyning sod unto sod, and then afterward place it into the earth, now if within this plot of ground which you make your Garden piece, there be either naturall or artificiall mounts or bankes upon them, you may in this selfe-same manner with greene sods set forth a flight, either at field or river, or the manner of hunting of any chase, or any story, or other devise that you please, to the infinite admiration of all them which shall behold it; onely in working against mounts or bankes you must observe to have many small pinnes, to stay your work and keepe your sods from slipping one from another, till such time as you have made every thing fast with earth, which you must ram very close and hard: as for Flowers, or such like adornments, you may the morning before, remoue them with their earth from some other Garden, and plant them at your best pleasure. And thus much for a Garden to bee made in the time of hastie necessity.

How

CHAP. XIX.

How to preserve Abricots, or any kinde of curious Outlandish-stone-fruit, and make them beare plentifully, be the Spring or beginning of Summer never so bitter.

I Have knowne divers Noblemen, Gentlemen, and men of under-qualitie, that have beene most laborious how to preserve these tender stone-fruits from the violence of stormes, frost, and windes, and to that end have beene at great cost and charges, yet many times have found much losse in their labours, wherefore in the end, through the practice of many experiments, this hath beene found (which I will here set downe) the most approvedst way to make them beare without all kinde of danger. After you have planted your Abricot, or other delicate fruit, and plasht him up against a wall, in manner as hath beene before declared, you shall over the tops of the trees all along the wall, build a large pentisse, of at least sixe or seaven foot in length, which pentisse over-shaddowing the trees, will, as experience hath found out, so defend them, that they will ever beare in as plentifull manner as they have done any particular yeare before. There be many that will scoffe, or at least, give no credit to this experiment, because it carrieth with it no more curiositie, but I can assure thee that art the honest English Husbandman, that there is nothing more certaine and unfallible, for I have seene in one of the greatest Noblemens Gardens in the kingdome, where such a pentisse was made, that so farre as the pentisse went, so farre the trees did prosper with all fruitfulnesse, and where the pentisse ended, not one tree bare, the Spring-

time

time being most bitter and wonderfull unseasonable.

Now I have seene some great Personages (whose purses may buy their pleasures at any rate) which have in those pentisses fixed divers strong hookes of yron, and then made a Canvasse of the best Poldavie, with most strong loopes, of small corde, which being hung upon the yron hookes, hath reacht from the pentisse to the ground, and so laced with corde and small pulleyes, that like the saile of a ship it might be trust up, and let downe at pleasure: this Canvasse thus prepared is all the Spring and latter end of Winter to be let downe at the setting of the Sunne, and to be drawne up at the rising of the Sunne againe. The practice of this I referre to such as have abilitie to buy their delight, without losse, assuring them that all reason and experience doth find it most probable to be most excellent, yet to the plaine English Husbandman I give certaine assurance that the pentisse onely is sufficient enough and will defend all stormes whatsoever. And thus much for the preservation and increase of all tender Stone-fruit, of what nature, or clime bred soever.

CHAP. XX.

How to make Grapes grow as bigge, full, and as naturally, and to ripen in as due season, and be as long lasting as either in France *or* Spaine.

DIvers of our English Gardiners, and those of the best and most approved'st judgements, have beene very industrious to bring Grapes, in our kingdome, to their true nature and perfection: and some great persons I know, that with infinit cost, and I hope prosperous successe, have planted a Vineyard of many Acres, in which the hands of the best experienced French-men have beene imployed: but for those great workes they are onely for great men, and not for the plaine

Engliſh Husbandman, neither will ſuch workes by any meanes proſper in many parts of our kingdome, eſpecially in the North parts: and I that write for the generall uſe, muſt treate of univerſall Maximes: therefore if you deſire to have Grapes in their true and beſt kinde, moſt early and longeſt laſting, you ſhall in the moſt convenient part of your Garden, which is ever the center or middle point thereof, build a round houſe, in the faſhion of a round Dove-coate, but many degrees lower, the ground worke whereof ſhalbe above the ground two or three brickes thickeneſſe, upon this ground-plot you ſhall place a groundſell, and thereon, fine, yet ſtrong ſtuds, which may reach to the roofe: theſe ſtuds ſhalbe placed better then foure foote one from another, with little ſquare bars of wood, ſuch as you uſe in glaſſe windowes, two betwixt every two ſtuds, the roofe you may make in what proportion you will, for this houſe may ſerve for a delicate banquetting houſe, and you may either cover it with Leade, Slate or Tile, which you pleaſe. Now, from the ground to the top, betweene the ſtuds, you ſhall glaſe it, with very ſtrong glaſſe, made in an exceeding large ſquare pane, well leaded and cimented. This houſe thus made, you ſhall obſerve, that through the bricke worke there be made, betweene every two ſtuds, ſquare holes, cleane through into the houſe; then on the outſide, oppoſite againſt thoſe holes, you ſhall plant the roote of your Vine, having beene very carefull in the election and choice thereof: which done, as your Vine groweth, you ſhall draw it through thoſe holes, and as you uſe to plaſh a Vine againſt a wall, ſo you ſhall plaſh this againſt the glaſſe window, on the inſide, and ſo ſoone as it ſhall beginne to beare Grapes, you ſhall be ſure to turne every bunch, ſo that it may lye cloſe to the glaſſe, that the reflection of the Sunne heating the glaſſe, that heat may haſten on the ripening, and increaſe the groath of your Grapes: as alſo the houſe defending off all manner of evill weather, theſe Grapes will hang ripe, unrotted or withered, even till *Chriſtmaſſe*. Thus have I given you

you a taſte of ſome of the firſt parts of Engliſh Huſbandry, which if I ſhall finde thankefully accepted, if it pleaſe God to grant me life, I will in my next Volume, ſhew you the choice of all manner of Garden Hearbes and Flowers, both of this and other kingdomes, the ſeaſons of their plantings, their flouriſhings and orderings: I will alſo ſhew you the true ordering of Woods, both high and low, as alſo the breeding and feeding of all manner of Cattell, with the cure of all diſeaſes incident unto them, together with other parts of Husbandry, never before publiſhed by any Authour: This I promiſe, if God bee pleaſed: to whom be onely aſcribed the glory of all our actions, and whoſe name be praiſed for ever.

Amen.

FINIS.

FINIS.

THE
Second Booke of the
English Husbandman.

CONTAYNING
the Ordring of the Kitchin-Garden, and the Planting of ſtrange Flowers: the breeding of all manner of CATTELL. Together with the Cures, the feeding of *Cattell, the Ordring both of Paſtures, and* Meddow-ground: with the uſe both *of high wood, and under-wood:*

WHEREUNTO IS ADDED
a Treatiſe, called *Good mens Recreation*: Contayning a Diſcourſe of the generall Art of Fiſhing, with the Angle, or otherwiſe: and of all the hidden ſecrets belonging thereunto.

TOGETHER

With the Choyce, Ordring, Breeding, and Dyeting of the fighting-*Cocke*.

Newly reviewed, enlarged, corrected, and amended by the Author.

By *G. M.*

LONDON,
Printed by IOHN NORTON, for HENRY TAVNTON, in St. *Dunſtans* Church-yard, in *Fleet-ſtreet*. 1635.

THE
Second Booke of the
CONTAYNING
The Ordring of the Kitchin-Garden

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THE

THE FIRST Part of the second Booke of the *English Husbandman*: Contayning the ordring of the Kitching-garden, the planting of strange Flowers, and the preservation of all Seeds, Hearbs, Flowers, and Fruits from noysome things.

CHAP. 1.

The choyce of ground for the Kitchin-garden, and the ordring thereof.

A Promise honest, and profitable being seriously made, I hold a sinne capitall to neglect, especially where the goodnesse stretcheth it selfe over a whole Kingdome: and hence I have assumed to perfect both my promise, and my labour in building up that weake foundation which I formerly layd, of the *English Husbandman*: wherein, contrary to all other Authors, I am neither beholding to *Pliny*, *Virgil*, *Columella*, *Varo*, *Rutillius*, *Libault*, nor any

other Forrainer, but onely to our owne best experienst Countrymen, whose daily knowledge hath made them most perfect in their professions: and what better instruction can be had than that which we receive from the professors being men of our owne neighbourhood, acquainted with our Climate, and Soyle, and the necessary things agreeing with the bettering of the same? and not resort as our Translators have done, to strangers helpe, who tels you that you must meanure your ground with Asses dung, when our Kingdome hath not so many foure-footed Asses as will meanure one Acre, and many such like things which our Kingdome affordeth not: therefore according to the plaine true English fashion, thus I persue my purpose.

The choyce of Ground.

Touching the choyce of Ground, I have in the former part of this Booke shewed you the true nature, and goodnes of every severall Soyle, and you are to understand that the best Soyle is best for this purpose, because it is least labourſome, and most profitable: yet notwithstanding that some of our translated Authors doth utterly disalow for Gardens many Soyles, as namely, all Sands, all Chawky earths, all Gravell, all Earths like dust, and any Earth which chappeth or openeth in the heat of Summer, by that meanes depriving almost halfe our Kingdome of the benefit of Gardens, yet I assure you that there is no Soyle whatsoever (if it lie from the inundation of water, or be not absolutely boggy) but with industry will beare any Fruit, Hearbe, or Flower, plentifully, and without any casualty proceeding from the barrennesse thereof: witnesse a most worthy Garden in the barren Peake of *Darbyshire*, where there is no curious Tree, or Plant wanting, nor doe they flourish, in any place more bravely.

Now for mine owne part, I write generally to all Husbandmen, not to those only which live in fertile, and fat Soyles, and therefore I would have no man say, the Soyle where I live is so barren, that I cannot have

a

a Garden: for if the Soyle wherein you live, be barren, than shall you in the latter end of September breake up your Earth more than a Spade graft deepe, and be well assured that at every Spade-graft you breake the mould well, and leave not the roots of any weeds within it, then let it rest till the midst of October, at which time if any weeds appeare upon it, by all meanes let them be pluckt up by the roots, which done, you shall trench your ground at least a yard, and a halfe deepe, and than bury in those trenches, if it be a Sand or Gravell earth, great store of Oxe or Cow meanure, if it be a cold Chalky Clay, or a moyst ground, than great store of Horses meanure, of both which meanures the oldest, and rottenest is the best: but if you live in such a Soyle as there is neyther of these meanures bred therein, then take straw of any kind whatsoever, and spread it in the high-way where there is much travell, and when it is rotten with the beating of Horsefeet, than cause it to be shoveld up, and with it fill your trenches, but if Straw be wanting, than if you have any muddy ditches or ponds, scowre the mud out of them, and with it fill up your trenches; and although these are not so long lasting as the two first sorts of meanures, yet they are sufficient to bring forth increase, and must supply where necessity inforceth, alwaies having discretion when you see your ground abate in fruitfulnes, to repleniſh it with fresh meanure.

The bettering of Grounds.

The trenching of Grounds.

Now as you fill your trenches with meanure, let one mixe the Earth therewithall, and as it were blend, and incorporate them together: thus having gone over so much ground as you intend to plant or sow upon, you shall let it rest till the midst of Ianuary, at which time you shall breake it up in trenches againe, but not above three quarters of a yard deepe, and then fill up those trenches with meanure as before, and lay your Earth as levell as is possible, and so let it rest till the beginning of March (if the weather be seasonable for sowing or planting) otherwise let it stay till mid-March, and as

ſoone as the Moone is changed you ſhall then dig it up the fourth time, and make it fit to receive your Seed, but in this fourth time of turning over your earth, you ſhall dig it but a little better than a Spade-graft deepe, and ever as you dig it, mixe it with freſh meanure: if your ground be ſubject to much chapping or riving, then you ſhall at this laſt digging mixe the earth with aſhes, and Horſe meanure mixt together, which will binde, and hold the earth from chapping.

Of breaking the Garden moulde.

After you have digd your ground in this order, and made it levell, you ſhall with an iron Rake breake the great clods of Earth, and bring it to as fine a mould as is poſſible, ever obſerving that if in the breaking of the clods or otherwiſe you perceive the roots or ſtalks of any weeds to ariſe, you ſhall preſently with your hand pull them out, and caſt them on heaps, that they may ſerve eyther for the fire or the dunghill: which done,

Ordring of Garden beds.

you ſhall tread out your beds in ſuch orderly ſort, that you may paſſe from one to the other without eyther treading upon the beds, or ſtriding over them: and thus much for the barren, and ſterrill ground, which although all ancient, and late writers reject, as not worthy to be imployed to this uſe, yet beleeve it, being husbanded as is ſaid before, it will equall in fruitfulnes the beſt ground.

Of the fruitfull Soyle.

Touching your rich, and perfect grounds, which of themſelves are apt to put forth with little labour, you ſhall onely at the latter end of September breake up the Earth, and making greater Trenches, fill them well with Oxe meanure, and then turning the Earth upon the meanure, levell your ground very carefully, breake the clods, and rake it very painfully, and then tread out your beds, as is before ſayd artificially: but if the ground which you breake up, be eyther greene-ſwarth, or much overgrowne with weeds (as theſe rich ſoyles muſt ever be the one or the other) (for they will not be idle, but continually bringing forth) then at this firſt digging, and

dunging

dunging you shall have divers which follow the Spade, who shall take away all manner of roots, greenes, grasse-tufts, stones, or whatsoever may breed anoyance to the ground: which worke being perfected, you shall let the ground rest all winter till the beginning of March, that the frost may mellow, and ripen the mould, and also kill the roots of such weeds as the Spade hath turned up, and have beene omitted to be pulled away.

Now so soone as March is come, upon the first change of the Moone, you shall dig up this Earth againe, levell it, and order it in all poynts as was sayd of the barren Earth, onely there will need no more use of meanure, but as soone as it is digged, raked, levelled, and brought into a fine mould, you may then tread out your Beds, as aforesayd, ever proportioning the quantity of them according to the quantity of your seeds, having the most of that which is most in use, and the least of the contraty.

Now as touching the fencing, and incloſing of your Garden, I have in the former Booke shewed you the same at large, and given severall instructions, according to mens severall abilities, with this caution, that whether your fence be wall, pale, dead-hedge, ditch, or quickset, yet it must be so high that it may with assurance keepe all manner of Pullen from flying over the same, who are the greatest enemies to a Garden that may be.

There would be also in this Kitchin-Garden, if with conveniency it may be brought to passe, eyther a Pumpe, Well, or Cesterne, which might flow continually with water all the Summer time, for the watering of Hearbs, as shall be hereafter declared. And thus much touching the choyce of ground for a Kitchin-garden, and the ordring of the same. The necessariest Ornament in a Garden.

Chap. 2.

Of the sowing, and ordering of all manner of Pot-hearbs.

When you have prepared your ground, and cast your beds in an orderly fashion, as is before spoken, you shall then take your Seeds, which Seeds would by no meanes be above a yeere old: and having sorted them severally, every one by it selfe, and appoynted the beds which shall severally receive them: you shall in this manner sow your Pot-hearbs, which crave not much root, because their onely benefit is in the leafe: take your seeds, and put them into a wooden Tray, then take of your Garden-mould, the finest that may be, being made almost as fine as ashes, and mixe your Seeds, and that mould very well together, then goe to the bed, where you meane to bestow them, and having newly rakt it (to stirre up the fresh mould) with your hand sprinkle, and sow them all over the bed, so thicke as may be: which done, with a fine rake, Rake the bed gently over, then taking spare fine mould, put it into a ridling Sive, and sift it over the bed better than two fingers thicknesse, and so let it rest: thus you shall doe severally with every seed one after another, bestowing every one upon a severall bed.

Of all sorts of Pot-hearbs.

Now for your Pot-hearbs, which are most generally in use, they be these: *Endive*, and *Succory*, which delight in moyst ground, and will endure the winter. *Bleete* of which there be two kinds, Red, and White: this Hearbe never needeth weeding, and if he be suffered to shed his seed it will hardly ever be got out of a Garden.

Of *Endive*, and *Succory*.

Of *Beets*.

Then *Beets*, which must be much weeded, for they love to live by themselves, and if they grow too thicke you may take them up when they are a finger long in their owne earth, and set them in another bed, and they will prosper much better.

Land-*Cresses*.

Then land-*Cresses*, which is both a good Pot-hearbe, and

and a good Sallet-hearbe: it loveth shadowy places, where the Sunne shineth least, and standeth in need of little dung.

Then *Parcely*, which of all Hearbs is of most use, it is longest in appearing above ground, and the elder seed is the quicklier in growth, but not the surer; but eyther being once come up increase naturally, and doe hardly ever decay; it cannot grow too thicke, but as you use it you must cut off the tops with your knife, and by no meanes pull up the roots: if it be put into a little purse, and beaten against the ground, to bruise it a little before it be sowne, it will make it have a large crisped leafe. *Parcely.*

Then *Savory*, of which are two kinds, the Winter-*Savory*, and Summer, both delight in leane ground, and are quicke of growth, and long lasting. Of *Savory.*

Then *Time*, of which are also two kinds, the running *Time*, and the Garden *Time*, they delight in fertile ground, and from the seed are very slow of growth, therefore it is best ever to set them from the slip. The running *Time* doth delight in the shadow, but the Garden *Time* in the Sunne. Of *Time.*

Then French-Mallowes, which will joy in any ground, and are quicke of growth. French-*Mallowes.*

Then *Chervill*, which will not by any meanes grow with any other Hearbe. *Chervill.*

Then *Dill*, which may be sowne almost in any moneth of the yeere as well as March: it endureth all weathers, but loveth the warmth best. Of *Dill.*

Then *Isop* which in like manner as *Time*, is slow of growth from the seed, and therefore fitter to be set from the slips after it hath once taken root it encreaseth wonderfully, and will hardly be destroyed. Of *Isop.*

Then *Mints*, which flourish onely in the Summer time, but die in the Winter, it delighteth most in the moyst ground. Of *Mints.*

Then *Violets*, the leaves wherof are a good Pot-hearb, and the Flowers preserved in close glasse-pots, with *Violets.*

strong

ſtrong Wine-vinegar, and Sugar, a moſt excellent Sallet: it doth delight to grow high, and will grow ſpeedily eyther from the plant or from the ſeed.

Of *Baſill.* Then *Baſill*, which would be ſowne in the warme weather, as at the beginning of May, for the ſeed is tender, and when you have ſowne it, you ſhall preſſe the earth downe upon it with your feet, for the ſeed can endure no hollowneſſe: if you ſow it at the fall of the Leafe, you ſhall ſprinkle the ſeed with Vinegar, and when you water it let the Sunne be at his height.

Sweet *Marioram.* Then ſweet *Marioram*, which would be ſowne on rich ground, and far from Sunſhine, for it taketh no delight in his beames.

Marigolds. Then *Marigolds*, which renew every moneth, and endure the Winter as well as the Summer: this Hearb the oftner you remove it, the bigger it groweth.

Of *Strawberries.* Then *Strawberries*, whoſe leaves are a good Pot-hearb, and the fruit the wholſommeſt berry: this Hearb of all other, would be ſet of the plant, and not ſowne from the ſeed, for the oft changing, and removing of it cauſeth it to grow bigger, and bigger: it groweth beſt under the ſhadows of other Hearbs, but very ſufficiently in beds, or elſewhere.

Of *Borage*, and *Bugloſſe.* Then *Borage*, and *Bugloſſe*, both which are of one nature: they would be ſowne in ſmall quantity, for where they take they will runne over a whole Garden; the ſeed muſt be gathered when it is halfe ripe it is ſo apt to ſhed, and when you gather it you muſt plucke up the ſtalks, leaves, and all, and ſo laying them one upon another three or foure dayes, there owne heate will bring the ſeed to ripeneſſe.

Of *Roſemary.* Then *Roſemary*, which is an Hearb tender, and curious, yet of ſingular vertue; it is ſoone ſlaine with froſt or lightning; it will grow plentifully from the ſeed, but much better from the ſlip, it delighteth to be planted againſt ſome Wall where it may have the reflection of the Sunne, for to ſtand vnpropped of him-

himselfe, the very shaking of the wind will kill it.

Then *Penyroyall*, which most properly is used to be mixt with Puddings, made of the bood of Beasts, and Oatmeale; of it there be two kinds, male, and female: the male beareth a white flower, and the female a purple: it must be sowen in small quantity, for it will runne, and spread over-much ground: it delighteth most in moyst earth. Of *Penyroyall*,

Then *Leekes*, which would have a fertile ground, and as soone as they be shot up a good length you shall cut the blades to the polt, and then remove the heads, and set them borderwise about your other beds: this removing after the cutting off the blads, will make them grow bigger, and prosper better, as for thrusting Oyster-shels or Tyle-sheads under them, to make the heads bigger, it is a toy, for if the mould be loose, and good, the Leeke will come to his perfect growth: they may be sowne both in March, Aprill, May, and Iune, and they may be removed all Iuly, August, September, and October. Of *Leekes*,

Then *Onions*, which differ not much from the nature of Leekes, they love a fertile Soyle, and would be sowne with the seeds of *Savory*: when they come up if they grow too thicke, as is often seene, you shall plucke up some, and spend them in the pot, and in sallets, to give the rest more roome, and some you shall take up, and replant in other beds, which you may preserve for seed, those *Onions* which you would not have to seed, you shall cut off the blades in the midst, that the juyce may descend downward, and when you see the heads of the *Onions* appearing above the earth, you shall with you feet tread them into the ground: there be some very well experienst husbands, which will take the faireſt, goodlieſt, and soundeſt *Onions* they can get, and in this moneth of March set them three fingers deepe in the earth, and these of all other bring forth the pureſt, and beſt seed, for which purpose onely they are preserved: as soone as Of *Onions*,

your seed-Onions are knotted, you shall underprop them with square cradles, made of sticks, least the waight of the boules which carry the seed, should breake the blades.

Of gathering *Onion*-seed, or the *Onion*.

The time of gathering your seed is, when it is all turned purely backe, and the time of gathering the *Onions* is, when the heads doe forsake the earth, after they be gathered you shall lay them on a dry floore for a fortnight or more, and then bind them up in ropes, and hang them where they may have the ayre of the fire, onely note, that you gather your *Onions*, in the increase of the Moone, as they were sowne, and not otherwise.

Many other Pot-hearbs there be, which for as much as they differ nothing, eyther in sowing, planting, or ordring, from these which I have rehearsed, I will heere omit them, and thinke this sufficient, touching the sowing, and ordring of all manner of Pot-hearbs.

Chap. 3.

Of the sowing of certaine Hearbs, which are to be eaten, but especially are medicinall, yet ever in the Husbandmans Garden.

Of *Arage*.

OF Hearbs which are medicinall, I will begin with *Arage*, or *Orache*, which being cold, and moyst is very excellent against the hot Gout: it is to be sowne in any moneth, from February till December: it loveth much moysture, and therefore must be oft watered: it must be sowne exceeding thin, and quickly covered, for the ayre is offensive.

Of *Lumbardy Loveage*.

Next it is *Lumbardy Loveage*, which being hot, and dry, is very purgative, it desireth a very fruitfull ground, but if it be sowne where it may have much shadow, and some shelter accompanied with moysture, it will grow in any ground, the moneths for sowing therof, is, from the midst of February till Harvest.

Fennell

Fennell is also hot, and dry, and it comforteth the stomacke, openeth the inward vessels, and helpeth digestion; it may be sowne in any moneth, and upon any indifferent ground, especially if it be a little stony, the seed would not be very old, though of all other it be the longest laster. Of *Fennell.*

Anise is hot, and dry, it dissolveth humours, and obstructions, and is very comfortable to weake stomacks, it delighteth in a good, and loose mould, and is to be sowne in the height of the Spring onely. Of *Anise.*

Comin is of the nature of *Anise*, and *Fennell*, and mixt with either, is very soveraigne against all inward sicknesses proceeding from cold, it loveth a fruitfull rich earth, and much warmth, and therefore the later it is sowne in the spring, it is so much the better, and above all things it would be sowne in the hottest time of the day, and if it be mixed with other seeds, it is so much the better, and appeareth the sooner. Of *Comin.*

Coliander is of the nature of the earth, cold, and dry, it helps digestion, and suppresseth vapours which offend the braine, it may be sowne upon any indifferent ground, and in any moneth except December, and January, the elder the seeds are, the better so they be sound, and they desire much watering. Of *Coliander.*

Rue or *Hearb-grace* is hot, and dry, and is very soveraigne against all inward infection, putrifactions, and impostumations, it joyeth in any reasonable ground so it grow warme, and dry, the moneths fittest for the sowing thereof, is March, Aprill, or May, and the mould would be firme, and not subject to ryving, whence it proceeds that no meanure is so good for the encrease thereof as horse-dung, and ashes mixt together: the beds would be made high, and descending, that no moysture may stay thereon, they must be carefully weeded, for in their first growth otherwise they are soone choaked. Of *Rue.*

Organy is hot, and dry, and excellent against any sick- Of *Organy.*

nesse of the liver, the ground in which it most joyeth would be a little stony, and full of rubbish, yet by no meanes undunged, the moneth fittest for the sowing thereof is March, and September, the Moone being in *Libra* or any other moyst signe, it must be continually watred till it appeare above the earth, but after forborne, for being once well fixed, it is ever certaine.

Of white *Poppy*, White *Poppy* is cold, and moyst, and much provoketh sleepe: it delights to be sowen in a rich, warme, dry ground, in the moneths of March, September, or November.

Of *Germander* *Germander* is hot and dry, and excellent against the Kings evill; obstructions of the Spleene, and hardnesse of Vrin; it is a hard Hearb, and will prosper in any ground, it is to be sowne, eyther in the spring or fall of the leafe, and is most comely for the setting forth of knots in Gardens.

Of *Cardus Benedictus*. *Cardus Benedictus*, or the blessed Thistle, is hot, and dry, it is very soveraine against most inward sicknesses, stancheth blood, and is a great comforter of the braine, it delighteth in a rich ground, and loose well tempered mould, it must be sowne very shallow, and not covered aboue two inches deepe, the first quarter of the Moone is best to sow it in, and in the moneths of March, May or September, if you sow a little fine flaxen Wheat with it, no doubt but it will prosper the better.

Of *Angellica*. *Angellica* is hot, and dry, it openeth, and dissolveth obstructions, is an excellent cordiall against poyson, and all infections, it helpeth the collicke, and cureth the biting of mad dogges, or venomous beasts, it loveth a fruitfull dry mould, but may not endure the trouble of weeds, it is to be sowen in March, or Aprill, and it flourisheth in July, and August, it hath a sweet odour, and helpeth all evill, and infected ayres.

Of *Valerian*, *Valerian* is hot, and dry, and preventeth infection,

it

it helpeth ſtitches, and other griefes proceeding from windy cauſes, it loveth to grow in moyſt, and low places, the ground being well meanured, and till it be ſhot at leaſt a handfull high, it muſt be kept with continuall watring, the moyſteſt time of the yeere is the beſt to ſow it in.

Elecampana is hot, and moyſt, and good for offences in the lungs, or any outward joynt, being troubled with paine proceeding from cold: it is better much to be ſet than ſowen, yet notwithſtanding it may ſafely enough be ſowen at any time after mid-March, the ground being rich, ſoft, and looſe, and the ſeed ſtrowed very thin, and at leaſt two fingers diſtance one from another. Of *Elecampana.*

Pepperwort is hot, and dry, yet of the two much more hot, it is good againſt all kind of aches, and other paine in the joynts, or ſinewes: it delighteth in a rich blacke Soyle, fat, and looſe: it would be ſowne in February, and removed in September. Of *Pepperwort.*

Philipendula is very hot, and dry, and is good againſt abortive births, Stone, Strangury, or any griefe proceeding from cold cauſes: it may be ſowne in any barren, ſtony, or gravelly ſoyle, in the moneths of May, Aprill, or September: it neyther deſireth much weeding, nor much watring, but being once committed to the ground appeareth ſuddenly: and thus much of thoſe Hearbs which are fit for Medicine, of which though there be many others, yet they differ not in their ordring from theſe already declared, Of *Philipendula.*

Chap. 4.

Of divers sorts of Sallet-hearbs, their manner of sowing and ordring.

Of *Lettuce.*

AMongst the many numbers of Sallet-hearbs, I thinke it not amisse to begin first with *Lettuce*, which of all other whose vertue is held in the leafe, is most delicate, tender, and pleasant: the ground than in which it most delighteth, is that which is most fertile, best laboured, and of the finest mould, being soft, loose, and more enclining to moysture than drynesse: it may be sowne in any moneth of the yeare, from February to November, it is very quicke of growth, and will appeare above the earth in foure daies after the sowing: it would at first be sowne thicke, and carefully kept with morning, and evening watrings, if the season be dry, but not otherwise; after it is growne, and faire spread above the earth, which will be in a moneths space or thereabouts, you shall chuse out the faireſt, and goodlieſt plants, and taking them up with the earth, and all, about their roots, replant or remove them to a new bed of fresh mould, and there set them a foot distance one from another, and fixe their roots fast, and hard into the ground: then cover or presse them downe with Tyle or Slate stones, to make them spread, and not spring upward, by which meanes the leaves will gather together, and cabbadge, in a thicke, and good order, for it is to be understood, that the oftner you remove your *Lettuce*, the fairer, and closer they will cabbage. There be divers which observe to remove *Lettuce* as soone as fixe leaves are sprung above the ground, but I like better to remove them when they begin to spindle: they are most esteemed in the moneths of Aprill, May, and Iune, for in Iuly they are supposed to carrie in them a poysonous substance.

Of *Spynage.*

Next the *Lettuce* I preferre the Hearb *Spynage*, which delight-

delighteth in a wel-dunged earth, and may be sowne in April, March, September, or October: it would not be mixed with other seeds, because it prospereth best alone.

Sparagus joyeth in a fertill moyst ground, the mould being made light which covers it, and the ground well dunged, the spring is the best time to sow it, and it must be sowne in long furrowes or trenches made with your finger, and not universally spread over the bed as other seeds are; it loveth moysture, but may not endure the wet to lie long upon it, and therefore the beds would a little descend: it must not be removed till the roots be so feltred together, that they hinder the new branches from springing up, which commonly is two yeeres. Of *Sparagus.*

Colworts or *Cabbage*-seed delighteth in any well husbanded ground, and may be sowne in all sorts, and seasons as *Lettuce* is, and must also in the like manner be removed, after the principall leaves are come forth, which will make them to gather together, and cabbadge the better: and as they may be sowne in any season of the yeere, so likewise they may be removed at all seasons likewise, except the frost or other unseasonable weather hinder you: and although some men will not allow it to be sowen in clay-grounds, gravell, chalke, or sand, yet they are deceived; for if the earth be well ordred, they will grow plentifully, onely you must observe when you remove them to let them have earth roome enough. Of *Colworts.*

Sage is in Gardens most common, because it is most wholsome, and though it may be better set from the slip than sowen in the seed, yet both will prosper, it loveth any well-dreſt ground, and may be sowen eyther in February, March, September, or October, it loveth also to grow thicke, and close together, and will of it selfe overcome most weeds: it asketh not much dung, neyther too great care in watring, only it would be oft searched, for Toades, and other venomous things will Of *Sage.*

delight

delight to lie under it, the more Sunne, and ayre it hath, the better it is.

Of *Purslane.* *Purslane* is a most excellent Salet-hearb, and loveth a fertile soyle, and though it may be sowen almost in any moneth, yet the warmest is the best, as Aprill, May, Iune, or September. Bucke ashes are an excellent meanure for them, and for most Sallet-hearbs else, but above all they love dry dust, and house-sweepings, they are apt to shed their seed, whence it comes that a ground once possest of them will seldome want them, they may also be removed, and will prosper much the better.

Of *Artichokes.* *Artychokes* love a fat earth, and may be sowen in February or March, the Moone encreasing, the seeds must not be sowen together, but set one by one a good distance asunder; they must lie somewhat deepe, and be firmely covered; yet if you can procure them, I rather wish you rather to set them from slips or young Plants, then sow them from the seeds, for they do so naturally love the earth, that you can hardly slip so wast a leafe from an *Artychoke* as will not take root; if you sow the seed, you must be carefull to weed, and water them well, for the first leaves are very tender; also if you remove them after their first springing, the fruit will be bigger, and better.

Of *Garlicke.* *Garlicke* is best in September, and November, to be set from the clove, in, and about the borders of beds, or other seeds, halfe a foot one from another, and in February, March, and Aprill, to be sowne from the seed: it must be ordred as you order *Onion*-seed, it loves not much wet nor extreame drought, only it desires a good mould which is rich, and firme, yet not too much dunged.

Of *Raddish.* *Raddish* loveth a fertile ground, that is well dunged chiefly with mans ordure, that is deepe trencht, and hath an easie, and light mould, and the seeds would be placed either in rowes, or about the borders of beds, as you doe *Garlicke*: the manner of sowing it is with a dib-

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ble or round sticke, to make a hole into the ground almost a foot deepe, and then into that hole to put not above two seeds at the most, and then close the hole up againe, and let the holes be foure fingers one from another, it may be sowen in most moneths of the yeere if the frost hinder not, and to make the root large, and tender, and to keepe the branch from seeding; you shall as it springs crop off the principall leaves which grow against the heart of the root; to tread them downe into the earth after they have fast roote is good also.

Navew, if the Earth have any small goodnesse in it, it will grow plentifully, neyther is offended with any aire, only the mould would be loose, and rough, for otherwise it many times turneth to Rape: the seed naturally commeth up very thicke, therefore it is expedient to remove them, and plant them thinner, for that best preserveth their natures, they may be sowne in February, March, Aprill, September, or October. Of *Navew*.

Persneps or *Carrets* are of one, and the selfe nature, they delight in a good fat Earth, and would be sowne reasonably thicke, in long deepe trenches like furrowes, having a gentle, and easie mould either in the moneths of Ianuary, February, or March, or in September, October, or December, they must be carefully well weeded, and if the Earth be fat, they neede not much watring or other attendance. Of *Persnips*, and *Carrets*.

Pompyons, *Gourds*, or *Mellons*, desire a very good ground, or by Nature or Art, the seeds must be sowne very thinne, as at least halfe a foot one from another, they would lie reasonably deepe, yet the mould very gentle which covers them, they are subject to spread, and runne over much ground, therefore as they grow you must direct their stemmes so as they may not annoy one another, and when they flower you shall lay broad Tiles or Slate stones under them, that the fruit nor flower may not touch the Earth; if you plash them up against Trees, or walles where they may have the reflection of Of *Pompions*.

the Sunne, the fruit will be larger, pleasanter, and sooner ripe; they need no weeding nor watring after you see them appeare above the earth, and the best seasons to sow them in, is February, March, or Aprill, those are the best *Pompyons* which have the smalleſt seeds, and are of the most yelloweſt complection.

Of the *Cowcumber.*

Cowcumber, is a delicate pleasant, yet very tender fruit, and delighteth in an extraordinary fat earth, especially during the opening or sprouting of the seed, therefore the best, and most undoubted safest way for sowing them, is first in some corner of your Kitchin-garden to make a bed of two or three yards square of old Oxe dung, and Horse-dung mixt together, and at least a yard or better high from the earth, then cover this bed of dung with the richest garden mould you have, better than halfe a foot thicke: then theron place your seeds halfe a foot likewise one from another, and be most sure that your seeds be hard, and sound (for any softnesse in them sheweth rottennesse) then cover them foure fingers thicke with the like mould: then within seaven or eight daies, after you shall see them appeare aboue the earth, but in any wise let them continue still till the principall leaves be come forth, and they begin to creepe out in length, then with your hand griping the whole plant, take it up by the roots with the earth, and all, and plant it in a bed new digged, and trimmed for the purpose with a rich loose mould, and so replant, and remove each root severally one after another, and they will grow, and bring forth in great plenty. Now by the way you must observe, that as soone as you have sowen your seeds you shall provide a Mat, Canuasse, or other couering, which being placed upon stakes over the dung bed shall every night after Sunne-set be spread over the same, and not taken away till the Sunne be risen in the morning, for this will defend the seeds from frosts, and other cold dewes which are very dangerous. Now if any demand

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why these seeds are thus sowen first on the bed of dung, they shall understand that besides the warmth, and fertility thereof, that the seeds are so pleasant, and tender, that wormes, and other creeping things in the earth will destroy them before they can sprout, which this bed of dung preventeth. The moneths most fit for sowing these seeds, as Aprill, May, and Iune only, for other are much to cold, and in this manner you may sow any tender seed whatsoever.

Beanes of *Ægypt* delight in a moyst watrish ground, rather fertile than any way given to barrenneſſe, yet will plentifully enough prosper in any indifferent earth: they are rather to set than sow, because they must take strong root, and be fixed somewhat deepe into the earth, and the moneth which is most proper for them, is the latter end of Ianuary, all February, and the beginning of March only. Of the Beanes of Ægypt.

Skerrets are a delicate root, white, tender, and pleasant, little differing in taste or excellency from the *Eringo*. They delight in a rich mould, moyst, and well broken, and must be set deepe in the earth; after they be a finger length above the ground they would be removed, and planted in a fresh mould, which will preserve them from speedy seeding, for when they runne to seed, they loose the vertue of their roote. The moneths fittest for the sowing of them, is March, Aprill, and May, and if you desire to have them all Winter, you may than sow them in September, and October. And thus much for Salet-hearbs, and roots, of all natures, of which kinds though there be divers other, yet you shall understand, all are to be ordred in the manner of these before rehearsed, that is to say, such as have their vertues in the stalke or leaves, like *Spinage*, *Sparagus*, *Purslane*, and such like, those which cabbadge or knit together in hard lumps, like *Lettuce*, *Colworts*, and such like, and those whose goodnesse lives in their roots, like *Raddish*, *Carrets*, *Skerrets*, and such like. Of Skerrets.

A most necessary observation.

Now for a most necessary observation, every Gardner ought to beare this rule in his memory, that all Pot-hearbs must be sowen thicke, and but thinly covered, as namely not above three fingers: all Hearbs which cabbadge must be sowen thicke, and deeper covered, as a full handfull at least, and in their removing planted thin, and well fixt into the earth: and all roots must be sowen thin, and deepe, as almost a foot eyther set into the ground, or strewed in deepe furrowes, digged, and layd up for the purpose, in which the quantity of your seed must only direct you: for if you have occasion to sow hardly a handfull, then you may set them one by one into the ground at your leasure, but if you have occasion to sow many Pecks, or halfe Pecks, then you shall turne up your earth into deepe furrowes, and in the bottome therof scatter your seed, and after rake it into a levell, and you shall not only save much labour, but gaine your purpose.

Chap. 5.

Of Flowers of all sorts both forraine, and home-bred, their sowing, planting, and preserving.

HAving written sufficiently of Pot-hearbs, and Salet-hearbs, which are the ornaments of the Husbandmans Kitchin or Table, I will here speake of flowers, which eyther for their smels, beauties, or both, are the graces of his Chamber. And first, because my maine ayme, and scope is English Husbandry, I will begin with those flowers which are most proper, and naturall for our climate, of which because I hold *Roses* both for their smell, beauties, and wholsomnesse to exceed all other, I thinke it not amisse to give them the first place, and precedency before all other.

Of *Roses*.

You shall understand then that *Roses* are generally,

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and anciently but of three kinds, the Damaske, the red, and the white, and what are different from these are but derivations from them, being by grafting, replanting, and phisicking, somewhat altred eyther in colour, smell, or doubleness of leafe.

To speake then first of the Damaske *Rose*, it is fit that all husbandmen know, that *Roses* may as well be sowen from the seed, as planted from the root, Syen, or branch only, they are slower in comming up, more tender to nourish, and much longer in yeilding forth their flowers, yet for satisfaction sake, and where necessity urgeth, if of force or pleasure you must sow it from the seed, you shall chuse a ruffish earth, loose, and well dunged, and you shall cast up your beds high, and narrow: the moneth which is fit for their sowing is September, and they must be covered not aboue foure fingers deepe, they must be defended well all the winter from frosts, and stormes, and then they will beare their flowers plentifully all the next Spring following; yet this is to be noted, that all *Roses* which rise from the seed simply, their flowers will be single like the *Eglantine*, or *Cyphany*, therefore after your plants are two yeeres old, you must graft one into another, as you doe other fruit, and that will make them double, and thicke: you must remember that those yellow small seeds which are in the midst of the *Rose*, are not true *Rose*-seeds, but those which lie hid in the round peare knob under the *Rose*, which as soone as the leaves are fallen away, will open, and shew the seed. And thus much touching the sowing of all sorts of *Roses*, which is for experience, and knowledge sake only, for indeed the true use, and property of the *Rose* is to be planted in short slips about fourteene inches long, and the small tassels of the root cut away, they would be set halfe a foot into the ground, in the same manner as we set ordinary Quickset, and of like thickenesse, rather a little slope-wise than upright: and though some thinke March the best season, yet doubtlesse September is

Of the Damaske *Rose*.

much better for having the roote confirmed all the Winter, they will beare the sooner, and better all the Summer following; you must be carefull to plant them in faire weather, and as neere as you can under shelter as by the sides of walls, and such like covert where the Sunne may reflect against them, and if they bee planted on open beds or borders, then you must with Poales, and other necessaries support, and hold them up, least the winde shake their roots, and hinder their growing.

Of the read *Rose*. The red *Rose* is not fully so tender as the Damaske, neyther is it so pleasant in smell, nor doubleth his leaves so often; yet it is much more Phisicall, and oftner used in medicine, it is likewise fitter to be planted then sowen, and the Earth in which it most ioyeth would be a little rough or gravelly, and the best compasse you can lay unto it, is rubbish, or the sweeping of Houses, the moneths to sowe or plant it in is March or September, and the time to prune and cut away the superfluous branches is ever the midst of October.

Of the white *Rose*. The white *Rose* is of lesse smell than the red, and will grow in a harder ground, his use is altogether in Phisicke, as for sore eyes, and such like: it will grow into a Tree of some bigge substance, and is seldome hurt with frosts, stormes, or blastings: it would likewise be planted from the roote against some high wall, eyther in the moneth of February or March, and the oftner you plant, and replant it, the doubler, and larger the Flower will bee: for the Earth it much skilleth not, because it will grow almost in every ground, only it delights most in the shadow, and would be seldome pruned, except you finde many dead branches.

Of the *Cinamon Rose*. The *Cinamon Rose*, is for the most part sowen, and not planted, whence it comes that you shall ever see the leaves single, and little, the delicacy thereof being only in the smell, which that you may have most fragrant,

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and strong, you shall take a vessell of Earth, being full of small holes in the bottome, and sides, and fill it with the richest Earth you can get, being made fine, and loose, then take Damaske *Rose* seeds which are hard, and sound, and steepe them foure, and twenty houres in *Cinamon*-water, I doe not meane the distilled water, but faire Conduit water, in which good store of *Cinamon* hath bin steeped, or boyled, or Milke, wherein good store of *Cinamon* hath bin dissolved, and then sow those seeds into the Pot, and cover them almost three fingers deepe, then morning, and evening till they appeare above the Earth, water them with that water or Milke in which the seeds were steeped, then when they are sprung up a handfull or more aboue the ground, you shall take them up mould, and all, and having dresst a border or bed for the purpose, plant them so as they may grow up against some warme wall or pale, and have the Sunne most part of the day shining upon them, and you shall be sure to have *Roses* growing on them, whose smell will be wonderfull pleasant, as if they had beene spiced with *Cinamon*, and the best season of sowing these is ever in March, at high noone day, the weather shining faire, and the winde most calme.

To make the *Cinamon Rose* grow double.

Now if you would have these *Roses* to grow double, which is an Art yet hid from most Gardners, yet shall at Michaelmasse take the uppermost parts of the Plants from the first knot, and as you graft eyther Plumme or Apple, so graft one into another, and cover the heads with Earth or clay tempered with *Cinamon*-water, and they will not only grow double, but the smell will be much sweeter, and looke how oft you will graft, and regraft them, so much more double, and double they will prove.

Of the *Province Rose*.

The *Province Rose* is a delicate Flower for the eye more then the nose, for his oft grafting abateth his smell, but doubleth his leafe so oft that it is wonderfull; therefore

fore if you will have them large, and faire, you shall take the faireſt Damaske *Roſes* you can get, and graft them into the red *Roſe*, and when they have ſhot out many branches, then you ſhall graft each ſeverall branch againe with new grafts of another gafted Damaske *Roſe*: and thus by grafting graft upon graft, you ſhall have as faire and well coloured *Province Roſes*, as you can wiſh or deſire; and thus you may doe eyther in the Spring or fall at your pleaſure, but the fall of the leafe is ever held the beſt ſeaſon.

To make *Roſes* ſmell well. Now if your *Roſes* chaunce to looſe their ſmels, as it oft happeneth through theſe double graftings: you ſhall then plant *Garlicke*-heads at the roots of your *Roſes*, and that will bring the pleaſantneſſe of their ſent unto them againe.

Generall notes touching *Roſes*. Now for your generall obſervations, you ſhall remember that it is good to water your *Roſes* morning, and evening till they be gathered; you ſhall rather covet to plant your *Roſes* in a dry ground than a wette; you ſhall give them much ſhelter, ſtrong ſupport, and freſh dung twiſe at the leaſt every yeere, when the leafe is fallen, you ſhall cutte, and prune the branches, and when the buds appeare, you, ſhall then begin your firſt watring.

Of *Lavender*. *Lavender* is a Flower of a hot ſmell, and is more eſteemed of the plaine Country-houſe-wife then the dainty Citizen; it is very wholeſome amongſt linnen cloathes, and would be ſowen in a good rich mould, in the moneths of March or Aprill.

Of the white *Lilly*. The white *Lilly* would be ſowen in a fat Earth, in the moneths of October, and November, or in March or Aprill, and the ſeeds muſt be ſowen exceeding thinne, not one by any meanes touching another, and the mould which covereth them muſt be ſifted gently upon them.

To make *Lillies* of any colour. If you would have your *Lillies* of a purple colour, you ſhall ſteepe your ſeeds in the Lees of red wine, and that

that will change their complection, and also you shall water the Plants with the same Lees likewise: if you will have them scarlet-red, you shall put *Vermillion* or *Cynaber* betweene the rind, and the small heads growing about the root: if you would have the blew, you shall dissolve *Azure* or *Byse* betweene the rind, and the heads, if yellow *Orpment*, if greene *Verdigrease*, and thus of any other colour.

To make *Lillies* flourish all the yeere.

Now to make them flourish every moneth in the yeere, you shall sow your seeds some a foot deepe, some halfe a foot, and some not two inches, so they will spring one after another, and flourish one after another.

Of the wood *Lilly*.

The wood *Lilly* or *Lilly* of the vale, delighteth most in a moyst ground, and may be sowen eyther in March or September, it is very faire to looke on, and not so suffocating in smell as the other *Lillyes* are.

Of the flower *de Lice*.

The *flower de Lice* is of excellent beauty, but not very pleasant to smell to, it loveth a dry ground, and an easie mould, and is fittest to be sowen in the moneth of March.

Of *Pioni*.

Pyonie or the blessed *Rose*, loveth a good fat earth being somewhat loose, and may be sowen eyther in March or September, it asketh not much watring, only some support because the stalkes be weake.

Of *Petillius*.

Pettillius or *Indian eye*, may be sowen in any ground, for it desireth neither much water, nor much dung, and the best season for sowing, it is Iune or September, for it will beare flowers commonly all the Winter.

Of *Velvet* flower.

Velvet flower loveth a rich fertile ground, and must be much watred: the season best for sowing is August, for commonly it will beare flowers all the Winter.

Of *Gilliflowers*.

Gilliflowers are of divers kinds, as *Pinks*, *Wal-flowers*, *Carnations*, *Clove-Gilliflowers*, and a world of others, which are of all other flowers most sweet, and delicate: all but the *Wal-Gilliflower* love good fertile earths, and may be sowen either in March, Iuly, or August. They are better to be planted of slips than sowen,

yet both will prosper. They are very tender, and therefore the best planting of them is in earthen Pots, or halfe Tubs, which at your pleasure you may remove from the shade to the Sunne, and from the roughnesse of stormes to places of shelter, they grow up high on long slender stalkes, which you must defend, and support with square cradles made of sticks, least the winde, and the waight of the flowers breake them; these *Gilliflowers* you may make of any colour you please, in such sort as is shewed you for the colouring of *Lillies*, and if you please to have them of mixt colours you may also, by grafting of contrary colours one into another: and you may with as great ease graft the *Gilliflowers* as any fruit whatsoever, by the joyning of the knots one into another, and then wrapping them about with a litte soft sleav'd silke, and covering the place close with soft red Waxe well tempered. And you shall understand that the grafting of *Gilliflowers* maketh them exceeding great, double, and most orient of colour.

Of grafting of *Gilliflowers*.

Now if you will have your *Gilliflowers* of divers smels or odours, you may also with great ease, as thus for example: if you will take two or three great Cloves, and steepe them foure, and twenty houres in Damaske *Rose* water, then take them out, and bruise them, and put them into a fine Cambricke, ragge, and so binde them about the heart root of the *Gilliflower*, neere to the setting on of the stalke, and so plant it in a fine, soft, and fretile mould, and the Flower which springeth from the same, will have so delicate a mixt smell of the Clove, and the *Rose*-water, that it will breede both delight, and wonder. If in the same manner you take a sticke of *Cinamon*, and steepe it in *Rose*-water, and then bruise it, and binde it as afore-said, all the Flowers will smell strongly of *Cinamon*: if you take two graines of fat Muske, and mixe it with two drops of Damaske *Rose*-water, and binde it as afore-said, the Flowers will smell strongly

Of the smels of *Gilliflowers*.

strongly of Muske, yet not too hot nor offensive, by reason of the correction of the *Rose*-water; and in this sort you may doe either with *Amber-greece*, *Storax*, *Beniamin* or any other sweet drugge whatsoever; and if in any of these confections before named, you steepe the seeds of your *Gilliflowers* foure and twenty houres before you sowe them, they will take the same smels in which you steepe them, only they will not be so large or double, as those which are replanted or grafted.

Now for your *Wall Gilliflower*, it delighteth in hard rubbish, limy, and stony grounds, whence it commeth that they covet most to grow upon walls, pavements, & such like barraine places. It may be sowen in any moneth or season, for it is a seede of that hardnesse, that it makes no difference betwixt Winter, and Summer, but will flourish in both equally, and beareth his Flowers all the yeere, whence it comes that the Husbandman preserves it most in his Bee garden: for it is wondrous sweet, and affordeth much honey. It would be sowen in very small quantity, for after it hath once taken roote, it will naturally of it selfe over-spread much ground, and hardly ever after be rooted out. It is of it selfe of so exceeding a strong, and sweet smell, that it cannot be forced to take, any other, and therefore is ever preserved in its owne nature. Of the *wall Gilliflower.*

The *Helytropian* or Flower of the Sunne, is in nature, and colour like our English *Marigold*, only it is exceeding huge in compasse, for many of them will be twenty, and foure and twenty inches in compasse, according to the fertilenesse of the soyle in which they grow, and by oft replanting of their roots, they are exceeding goodly to looke on, and pleasant to smell, they open their Flowers at the rising of the Sunne, and close them againe at the Sunne setting, it delighteth in any soyle which is fertile eyther by Art or Nature, and may be sowen in any moneth from February till September, the oft planting, and replanting of the roote after it Of the *Helytropian.*

is ſprung a handfull from the Earth, maketh it grow to the uttermoſt bigneſſe, it would have the Eaſt, and Weſt open upon it, only ſome ſmall Pent-Houſe to keepe the ſharpneſſe of the winde from it.

Of the *Crowne Emperiall*.

The *Crowne Emperiall*, is of all Flowers both Forraigne and home bread, the delicateſt, and ſtrangeſt: it hath the true ſhape of an *Emperiall Crowne*, and will be of divers colours, according to the Art of the Gardner. In the middeſt of the Flower you ſhall ſee a round Pearle ſtand, in proportion, colour, and orientneſſe, like a true naturall Pearle, only it is of a ſoft liquid ſubſtance: This Pearle if you ſhake the Flower never ſo violently will not fall off, neyther if you let it continue never ſo long, will it eyther encreaſe or diminiſh in the bigneſſe, but remaineth all one: yet if with your finger you take, and wipe it away, in leſſe than an houre after you ſhall have another ariſe in the ſame place, and of the ſame bigneſſe. This Pearle if you taſte it upon your tongue, is pleaſant, and ſweet like Honey: this Flower when the Sunne ariſeth, you ſhall ſee it looke directly to the Eaſt, with the ſtalke bent lowe there-unto, and as the Sunne ariſeth higher and higher, ſo the Flower will likewiſe aſcend, and when the Sunne is come into the *Meridian* or noone poynt, which is directly over it, then will it ſtand upright upon the ſtalke, and looke directly upward, and as the Sunne declineth, ſo will it likewiſe decline, & at the Sunne ſetting looke directly to the Weſt only. The ſeeds of this Flower are very tender, and therefore would be carefully ſowne in a very rich, and fertile Earth well broken, and menured. The ſeaſons moſt meete for the ſame, is the latter end of March, Aprill, or May, for the Flowers flouriſh moſt in May, Iune, and Iuly. As ſoone as it is ſprung a handfull above the Earth; you ſhall remove it into a freſh mould, and that will make it flouriſh the braver; the roote of this Flower is like an Apple, or great flat *Onion*, and therefore in the replanting of it, you muſt be carefull to

make

make a hole large, and fitte for the same, and to fixe the mould gently, and close abovt the same. In the Winter it shrinketh into the Earth, and is hardly or not at all discerned, by meanes whereof I have seene divers supposing it to be dead, to digge vp the Earth, and negligently spoyle the roote, but be not you of that opinion, and in the Spring you shall see it arise, and flourish bravely.

Of the *Dulippo.*

The *Dulippo* is but a little short of the *Crowne Imperiall* in pleasantnesse, and rareneſse, for you may have them of all colours whatsoever, in such sort as was shewed you for the *Lillies*, *Gilliflowers*, and other roots: they are tender at their first springing from the seede, and therefore must be sowen in a fine rich mould, in the warmth of the Sunne, eyther in March, Aprill, or May; but after they are once sprung above the ground, they are reasonable hard, and will defend themselves against most weathers: the roote of this Flower is shaped like a Peare, with the biggest end downeward, and many small threeds at the bottome; therefore you must be sure when you remoove or replant it, to cover all the roote in fresh mould, and let not any part of the white thereof bee uncovered: this Flower by monethly replanting, you may have to flourish in all the Summer moneths of the yeere, for in the dead of Winter it shrinketh into the ground, and is hardly or not at all perceived, the stalkes of these flowers are weake, therefore to support them, and defend them from the shakings of the windes with little square frames of stickes, will be very good, and necessary, it must be oft watred.

Of the *Hyacinth.*

The *Hyacinth* is a Flower more delicate to the eye then nose, and is of a good strong nature, for it will endure any reasonable Earth, and may be sown in any moneth of the Spring, from the beginning of. February till midde Iune: it only hateth tempests, and stormes, and therefore is commonly sowen or planted neere unto

walls or other shelter. You may have them of any colour you please, as is shewed before of other flowers, and in this alteration or mixture of colours their greatest glory appeareth, they will flourish all the Summer long, and if they stand warme, appeare very early in the Spring.

Of *Narcissus.* The *Narcissus* is a very curious, and dainty flower, and through his much variety, and alteration in growing, they are supposed to be of divers kinds, but it is not so; for in as much as they are seene to be of divers colours, that is but the Art of the Gardner, as is before expreast in other flowers, and whereas some of them grow single, some double, and some double upon double, you shall understand that such as grow single, grow simply from the seed only, those which are double, and no more are such as have beene planted, and replanted, the small threds of the roots being clipt away, and nothing left about it that is superfluous, and those which are double upon double, are the double plants grafted one into another. This *Narcissus* loveth a rich warme soyle, the mould being easie, and light, it may be sowne in any moneth of the Spring, and will flourish all the Summer after. Before it appeare above ground it would be oft watred, but after it skils not how little, for it will defend it selfe sufficiently.

Of the *Daffadill, Colombine,* and *Chesbole.* Not unlike unto this is your *Daffadill* of all kinds, and colours, and in the same earths, and seasons delighteth either to be sowen or planted, and will in the same manner as your *Narcissus* double, and redouble his leaves; so will your *Colombine*, your *Chesbole*, and almost any hollow flower whatsoever. Many other forraigne flowers there are which grow plentifully in our Kingdome: but the ordring of their planting, and sowing differeth nothing from these which I have already declared, being the most tender, and curious of all other, therefore I will end this Chapter with this one caution only, that when you shall receive any seed

An excellent caution.

from

from any forraine Nation, you ſhall learne as neere as you can the nature of the Soyle from whence it commeth as hot, moyſt, cold, or dry it is, and then comparing it with ours, ſow it as neere as you can in the earth, and is the ſeaſons that are neereſt to the ſoyle from whence it came, as thus for example: if it came from a clime much hotter than ours, then ſhall you ſow it in ſandy mould or other mould made warme by ſtrength of meanure, in the warmeſt time of the day, and in thoſe moneths of the Spring, which are warmeſt, as Aprill or May, you ſhall let it have the Sunne freely all the day, and at night, with Mats, Penthouſe, or other defence, ſhield it from ſharpe winds, froſts, or cold dewes.

A new manner of planting flowers, and fruits.

I have ſeene divers Noblemen, and Gentlemen, which have beene very curious in theſe dainty flowers, which have made large frames of wood with boards of twenty inches deepe, ſtanding upon little round wheeles of wood, which being made ſquare or round according to the Maſters fancy, they have filled with choyce earth, ſuch as is moſt proper to the flower they would have grow, and then in them ſow their ſeeds, or fixe their Plants in ſuch ſort, as hath beene before deſcribed, and ſo placing them in ſuch open places of the Garden, where they may have the ſtrength, and violence of the Sunnes heat all the day, and the comfort of ſuch moderate ſhowers, as fall without violence or extraordinary beating, and at night draw them by mans ſtrength into ſome low vaulted gallery joyning upon the Garden, where they may ſtand warme, and ſafe from ſtormes, winds, froſts, dewes, blaſtings, and other miſchiefes which ever happen in the Sunnes abſence, and in this manner you may not only have all manner of dainty out-landiſh flowers, but alſo all ſorts of the moſt delicateſt fruits that may be, as the *Orenge*, *Limon*, *Pomgranate*, *Poncythron*, *Cinamon-tree*, *Olive*, *Almond*, or any other, from what clime ſoever it be derived, obſerving only to make your frames of wood, which con-

taines

taines your earth, but deeper, and larger, according to the fruit you plant in it, and that your Alleys through which you draw your Trees when you houſe them be ſmooth, and levell, leaſt being rough, and uneven, you jogge, and ſhake the roots with the waight of the Trees, which is dangerous. And leaſt any man may imagine this but an imaginary ſuppoſition, I can aſſure him that within ſeven miles of *London*, the experiment is to be ſeene, where all theſe fruits, and flowers with a world of others grow in two Gardens moſt abundantly. Now for ſuch flowers or fruits as ſhall be brought from a colder or more barren ground than our owne, there needeth not much curioſity in the plantation of them, becauſe a better ever bringeth forth a better encreaſe, only I would wiſh you to obſerue, to give all fruits or flowers the uttermoſt liberty of the weather, and rather to adde coolenes by ſhadow, than encreaſe any warmth by reflection, as alſo to augment ſhowers by artificiall watrings, rather then to let the root dry for want of continuall moyſture, many other notes, and obſervations there are, which to diſcover, would aske a volumne larger than I intend, and yet not to be more in true ſubſtance, than this which is already writ, if the Reader have but ſo much mother-wit, as by comparing things together, to draw the uſes from the true reaſons, and to ſhun contrary by contraries, which what Husbandman is ſo ſimple, but he can eaſily performe, and having the true grounds of experience, frame his deſcant according to his owne fancy, which is a muſicke beſt pleaſing to all men, ſince it is not in any one mans power to give a generall contentment. And thus much for flowers, and their generall, and particular ordring.

CHAP.

Chap. 6.

How to preserue all manner of seeds, hearbs, flowers, and fruits, from all manner of noysome, and pestilent things which devoure, and hurt them.

IT is not enough to bequeath, and give your seeds unto the ground, and then immediatly to expect (without any farther industry) the fruit of your labours, no goodnesse seldome commeth with such ease: you must therefore know, that when you lay your seeds in the ground, they are like so many good men amongst a world of wicked ones, and as it were invironed, and begirt with maine Armies of enemies, from which if your care, and diligence doe not defend them, the most, if not all, will doubtlesse perish, and of these enemies the worst, and most violentest is *Thunder*, and *Lightning*, which in a moment killeth all sorts of Flowers, Plants, and Trees, even in the height, and pride of their flourishing, which to prevent, it hath beene the practise of all the ancient Gardners, to plant against the walles of their Gardens, or in the middest of their quarters, where their choysest flowers grow, the *Lawrell* or *Bay* Tree, which is ever held a defence against those strikings. Of *thunder*, and *lightning*.

Next unto *Thunder*, and *Lightning*, are *Caterpillers*, which are a kinde of filthy little wormes, which lye in Cobwebs about the leaves, devouring them, and poysoning the sap, in such sort, that the Plant dieth speedily after: the way to kill these, is to take strong Vrine, and Ashes mixt together, and with it to dash, and sprinkle all the Plants cleane over, and it will both prevent their breeding, or being bread will kill them: the smoake of Brimstone will doe the like, yet if they be exceeding much abundant, the surest way to destroy them is to take old rotten mouldy hay, and setting it on Of *caterpillers*.

fire, with the blaze thereof burne the Cob-webs, and then with the smoake smother, and kill the wormes, and they will hardly ever breede in that place againe.

Of *Toades*, and *Frogges*.

Next these are *Toades*, and *Frogges* which are very poysonous, and great destroyers of young Plants, chiefly in their first appearing above the ground, and the auncient Gardners have used to destroy them by burning the fat of a Stagge in some part of the Garden beds, from which Earth all creatures that have poyson in them, will flye with all violence: other Gardners will watch where the Kite pearcheth on nights, and gathering up her dung, scatter it upon the beds eyther simply, or mixt with the shavings of an olde Harts-horne, and no venemous thing will come neere it.

Of the field *Myce*.

Next these are field *Myce*, which will roote seeds out of the Earth, and devoure them abundantly, which to kill you shall take *Henbane-seede*, and beate it to pouder, and then mixing it with sweet Oyle, fresh Butter, or Grease, make therof a bayte, and when you finde where they scratch or roote, lay some part of the bayte in that place, and they will greedily eate it, and it will kill them: there be other Gardners which will take a Weesell, and burning it to ashes, scatter the ashes on the beds, and then no field *Mouse* will come neere unto them.

Of *Flyes*.

Next these are *Flyes*, as flesh-*Flyes*, *Scarabs*, *Hornets*, *Dores*, and such like, which are great destroyers of Seeds, and Plants, when they appeare in their first leafe, and are soft, and tender, which to destroy, you shall eyther take *Orpment* mixt with Milke, or the pouder of *Allome*, or the ashes of any of these *Flyes* burnt, and with it sprinkle your beds, and young plants all over, and it will keepe *Flyes* that they will not dare to come neere them.

Of the greene *Flye*.

If the greene *Fly*, which of all other *Flyes* is most greedie to hurt Seeds, and Plants, doe offend your Garden,

you

you ſhall take *Henbane* leaves, *Houſeleeke*, and *Mints*, and beat them in a Morter, then ſtraine forth the juyce, and then adde thereto as much Vinegar as was of all the reſt, and there-with ſprinkle your beds all over, and the geeene *Fly* will never come neere them. Some hold opinion, that if you plant the hearbe *Rocket* in your Garden that it is a ſafe preſervative againſt theſe greene *Flyes*, for it is moſt certaine that the very ſmell thereof will kill theſe, and moſt ſorts of all other *Flyes* whatſoever, as hath beene found by approved experience, and the ſylts of old ancient Abby Gardens, which a man ſhall ſeldome finde without this hearbe planted in them.

Next theſe are *Gnats*, which although it bee the ſmalleſt of all *Flyes*, yet it is the greateſt, quickeſt, and ſharpeſt devourer of tender Plants of all other, for it biteth deeper, and more venomouſly ſharpe, then thoſe which are of much bigger ſubſtance; the beſt way to deſtroy them is morning, and evening, to ſmoake, and perfume your beds eyther with wet *Roſemary*, or with mouldy *Hay*: ſome uſe to burne *Calamint*, and ſome Oxe dung, and ſure all are very good, for the ſmoakes are very ſharpe, and ſtyfle as ſoone as it is received. Of *Gnats*.

Next theſe are *Piſmyers*, which alſo are very noyſome unto Gardens, for they will digge up, and carry away the ſmaller ſeeds to their hills, and in ſhort ſpace ſpoyle, and deface a bed of his encreaſe, and the beſt way to deſtroy them, is, if you find their hill, to power hot ſcalding water upon them; or if upon your Garden beds you ſtrow Aſhes or Lyme, but eſpecially that which is made of chalke, they will by no meanes come neere them, as you ſhall finde by experience. Of *Piſmyers*.

Next theſe are *Moales*, which digging, and undermining the Earth, turneth up Seeds, and Plants in a confuſed faſhion, to the utter deſtruction, and ruine of the Huſband-mans labour, the cure whereof is Of *Moales*.

to take them in such sort, as shall be shewed in this Booke, where I speake of Pasture grounds; but if you finde that their encrease, and continuance multiply with your labour, it shall be then good for you to plant in divers places of your Garden the Hearbe called *Palma christi*, in other places *Garlicke*, and in other places *Onyons*, and it is an assured rule that no *Moale* will come neere where they grow, for the strength, and violence of their smell, is poysonous, and deadly to those blinde vermines.

Of *Snailes.* Next these are *Snailes* of both kinds, blacke, and white, which are as much offensive to Gardens, as any other crawling thing, for they feede of the tender leaves of plants, and of the outmost rindes of the daintiest Hearbs, or Flowers, the way to destroy them, is to sprinkle upon the beds, and other places of their aboad good store of chimney soote, which by no meanes they can endure, because it is mortall, and poysonous.

Of *Moaths.* Next these are *Moaths*, or *Moaghts*, which are very pernicious in a Garden, for they destroy both Seeds, and Plants, and there is no better or more certaine way to kill them, then by taking old horse hooses, and burning them, with the smoake thereof to perfume all the places where they abide, and it will in an instant kill them; with this smoake only you may keepe Arras hanging, Tapistry, Needle-worke, Cushions, or Carpets, or any woollen cloath, or garment whatsoever safe from *Moathes* as long as you please, neyther neede you to use it above once or twice a yeere at the most, as shall be more at large in another place declared.

Of *cankers.* Next these are *Cankers*, which are a kinde of filthy wormes, which devoure both the great, and small leaves of all sorts of sweete Plants, especially *Lettuce*, *Cabbadge*, *Colaflowres*, and such like, and the way to destroy them, is to scatter amongst your Plant, Goose-dung, or to sprinkle the juyce thereof with a wispe of *Rue*

or

or Hearbe of *Grace* over all the beds, and though some with a rusty knife use to scrape them from the leaves, and so kill them on a Tyle-shread, yet for my part I hold this the neerer way, and both more certaine, and more easie; as experience will approve.

Lastly, doe your Garden *Wormes* which living in the hollowes of the Earth feede much upon your tender Garden seeds, and the soft sprouts which first issue from them, especially from all sorts of kirnels, in which they delight more then in any other seede whatsoever, as you may finde by experience, if you please to observe accidents as they happen, without which observation you shall hardly attaine to the perfection of an excellent Gardner: for if you please to make this triall, take the kirnels of a faire sound Pippin, and devide them into two parts, then sow the one halfe in a Garden-bed well dreſt, and trimmed for the purpose, where the worme hath liberty to come, and goe at his pleasure, sowe the other halfe in some riven Boule, earthen Pot, or halfe Tub, made for the purpose with the same Earth or mould that the bed is, and then set the vessell so as no worme may come thereunto, and you shall finde that all those Seeds will sprout, and come forth, when hardly any one of those in the bed of Earth will or can prosper, there being no other reason but the extreame greedinesse of the devouring worme, which to prevent, you shall take Oxe-dung, and burne it to ashes, then mixe them with the earth where with you cover your Seeds, and it will both kill the wormes, and make the Seeds sprout both sooner, and safer. And thus much for the preservation of Seeds, and Plants, from all noysome, and pestilent creatures, which being practised with care, and diligence, will give unto every honest minde the satisfaction he desireth.

Of Garden *Wormes.*

An excellent experiment.

Now to conclude this small tract, or Treatise of the Husbandmans *Kitchen Garden*, I would have every honest Reader understand, that I have not taken upon

The conclusion of the *Kitchen Garden*

me to modell out any curious shape or proportion, but only figured out a perfect nourcery, shewing you how to breed, and bring up all things fit for health or recreation, which being once brought to mature, and ripe age, you may dispose into those proper places which may become their worthinesse, in which worke I would have your owne fancy your owne direc&tour, for I may give preheminence to that you least like, and disesteeme that most which to you may seeme most worthy, therefore let your owne judgment order your Garden, like your house, and your hearbs like your furniture, placing the best in the best places, and such as are most conspicuous, and the rest according to their dignities in more inferiour roomes, remembring that your galleries, great chambers, and lodgings of state do deserve Arras, your Hall, Wainscote, and your meanest offices some *Boscadge*, or cleanly painting; from this alligory if you can draw any wit, you may find without my farther instruction how to frame Gardens of all sorts to your owne contentment.

THE

THE SECOND Part of the second Booke of the *English Husbandman*: Contayning the ordring of all sorts of Woods, and plashing of hedges, ordring of pastures, and the curing of Cattels diseases.

CHAP. I.

Of the beginning of Woods, first sowing, and necessary use.

IT is a Maxime held in Plantations, that no land is habitable, which hath not Wood, and Water, they two being as it were the only nerues, and strength of a mans safe, and wholsome living, and I have heard many wise Gentlemen, exercised, and engaged, in the most noble, and ever laudable workes of our new Plantations, both of *Virginia*, and the Summer-*Ilands* affirme, that they had rather, for a generall profit, have a fertile wholsome land, with much wood, than (wanting wood) with a Mine of gold: so infinite great is the use of Timber (whose particulars I need not rehearse) and so insufferable is the want, when we are any

Wood better than Gold.

any way pinched with the ſame. And hence it ſpringeth that our old anceſtors (whoſe vertues would God we would in ſome ſmall meaſure imitate, when they found any hard, and barren earth, ſuch as was unapt for graſſe, or at leaſt ſuch as bare but graſſe that would keepe life, not comfort life, they preſently plowed it up, and ſowed thereon Acornes, Aſh keyes, Maple-knots, Beech-apples, Hawes, Slowes, Nuts, Bullis, and all other ſeeds of Trees in inumerable quantity, as may appeare by the Forreſts of *Del la mere*, *Sherwood*, *Kings wood*, and many other within this Kingdome of huge great ſpaciouſneſſe, and compaſſe, from whom when the wood is ſpoyled, the ſoyle ſerveth to little or no purpoſe, except it be the keeping alive of a few poore ſheepe, which yeild but little profit more than their carcaſſe. Thus even from the firſt age of the world hath our forefathers beene ever moſt careſull to preſerue, and encreaſe wood, and for mine owne part I have ever obſerved in all thoſe places where I have ſeene Woods decayed, and deſtroyed, that the charge of ſtubbing, and other neceſſaries allowed, thoſe lands have never againe yeilded the former profit, for the greateſt exhauſtment that ever I ſaw of Wood ground was to bring it to ten ſhillings an Acre when it was converted to paſture, and being kept to wood it was worth every ſeaventeenth yeere one and twenty pound. A ſimple Auditor may caſt the account of this profit, but ſuch is our greedineſſe, that for our inſtant uſe we little reſpect the good of ours, or our neighbours: But it is no part of my bookes method all offences to queſtion, but only to right the Husbandman in his journey to ordinary profit.

The excellent uſe of Wood.

Know then that there is nothing more profitable to the Husbandman, than the encreaſing, and nouriſhing of wood; from whence (as our common lawes tearme it) ſprings theſe three bootes or neceſſary commodities, to wit Houſe-boote, Plow boote, and Fire-boote, without the firſt we have neither health, covert, eaſe, nor ſafety

from

from savage beasts: without the second we cannot have the fruits of the earth, nor sustenance for our bodies, nor without the last can we defend off the sharpe Winters, or maintaine life against the numbing colds which would confound us. The consideration of these three things only, might enduce us to the preservation of this most excellent commodity: but the other infinit necessities, and uses which we make of Wood, as Shipping, by which we make our selves Lords of the Seas: fencing which is the bond of concord amongst neighbours: solution, and tryall of Mines, from whence springs both our glory in peace, and our strength in warre, with a world of others sutable unto them, should be motives unresistable to make vs with all dilligence hast to the most praise-worthy labour of planting Wood, in every place, and corner, where it may any way conveniently be received.

If then the Husbandman shall live in a high barren Country (for low-valleyes, marshes, or such grounds as are subject to inundations, seldome nowrish Wood well) or in a soyle though not utterly barren, yet of so hard, and slower encrease, that the hearbage doth in them profit but in small quantity, I would wish him after a generall tryall of his earth, to divide it into three equall parts, the first, and fruitfullest I would have him preserue for pasture for his Cattell of all kinds: the second, and next in fertility for Corne, being no more then those Cattell may till, and the last, and most barren to imploy for Wood: which though he stay long for the profit, yet will pay the interest double. And this ground thus chosen for wood, I would have him plow up from the swarth about the latter end of February, and if it be light earth, as eyther sand, gravell, or a mixt hazell earth, then immediately to sow it with Acornes, Ash-keyes, Elme, and Maple knots, Beech-apples, Chesnuts, Cervisses, Crabs, Peares, Nuts of all kinds, Hawes, Hips, Bullice, Slowes, and all manner of other Wood-seeds

The Plantation of *Wood.*

whatsoever, and as soone as they are sowne, with strong Oxe harrowes of iron, to harrow, and breake the Earth, in such sort, that they may be close, and safely covered. And in the plowing of this Earth, you must diligently observe to turne up your furrowes as deepe as is possible, that the seede taking strong, and deepe roote, may the better, and with more safety encrease, and defend it selfe against stormes and tempests, whereas if the roote be but weakely fixed, the smallest blasts will shake the Trees, and make them crooked, wrythen, and for small use but fire only.

The fenceing of young Woods.

After you have harrowed your Earth, and laide your seede safe, you shall fence your ground about with a strong, and large fence, as hedge, ditch, pale, or such like, which may keepe out all manner of foure-footed beasts, for comming within the same, for the space of ten yeeres after: for you shall understand, that if any cattell shall come where young wood is peeping above the Earth, or whilst it is young, tender, and soft, they will naturally crop, and brouse upon the same, and then be sure that the wood which is so bitten, will never prosper or spring up to any height, but turne to bushy shrubs & ill-savoured tufts pestring the ground without any hope of profit, whereas if it be defended, and kept safe the space of ten yeeres at the least, it will after defend it selfe, and prosper in despight of any iniury: and then after that date you may safely turne your cattell into the same, and let them grase at pleasure, and surely you shall finde it a great reliefe for your young beasts, as your yearling-Haiffers, Bullocks, Colts Fillies, and such like: for I would not wish you to let any elder Cattell come within the same, because the grasse though it be long, yet it is sower, and scowring, and by that meanes will make your Cattell for labour weake, and unhealthy, whether it be Oxe or Horse, and for milch-Kine, it will instantly dry up their milke, but for idle heilding beasts, whose profit is comming after, it wil serue sufficiently.

When cattell may grase in Springs.

Now

Now if the Earth whereon you sowe your wood, be a stiffe clay ground, and only barraine through the extreamity of cold, wet, or such like, as is seene in daily experience: you shall then plow up the ground at the end of Ianuary in deepe furrowes, as is before rehearsed; and then let it rest till it have received two or three good Frosts, then after those Frosts some wet, as eyther Snow or Raine, and then the next faire season after sowe it, as afore-said, and harrow it, and you shall see the mould breake, and cover most kindely, which without this baite, and order, it would not doe, then fence it as afore-said, and preserue it from Cattell for tenne yeeres after. The use of the clay ground for *Wood*.

And here is to be noted that one Oake growing upon a clay ground, is worth any five which growes upon the sand, for it is more hard, more tough, and of much longer indurance, not so apt to teare, rive, or consume, eyther with Lyme, Rubbish, or any casuall moysture; whence it comes that ever your Ship-wrights or Mill-wrights desire the clay Oake for their use, and the Ioyner the sand Oake for smoothnesse, and wayn-scote. And thus much for the sowing of Wood, and his generall uses. A speciall note.

Chap. 2.

The division of under-Woods, their sale, and profit.

Whosoever be a Lord or Master of much under-wood, which is indeede young spring-wood of all kinds, growing thicke, and close together, eyther from the seede, as is declared in the former Chapter, or from the roots of former falles, the first being a profit begotten by himselfe, the other a right left by purchase or inheritance, and desire, as it is the duty of every vertuous husband, to make his best, and most lawfullest profit thereof, having

not left unto him any president of former commodity. In this case you shall survay the whole circuit of your wood, with every corner, and angle there unto belonging, and then as your ability, and the quantity of your ground shall afford, you shall devide your whole wood eyther into twelue, seventeene, or one, and twenty parts of equall Acres, Roods, or Rods, and every yeere you shall sell or take to your owne use one of those parts, so that one following yeerely after another, our sales may continue time out of mind, and you shall imploy as you please so much wood every yeere of eyther twelue, seaventeene, or one and twenty yeeres growth. And in this you shall note that the sale of one and twenty, doth farre exceede that of seventeene, and that of seventeene as farre that of twelue: but in this it is quantity, and your necessity that must direct you, and not my demonstration: for there be few Husbands but know that an Acre of one, and twenty yeeres growth, may bee worth twenty, nay thirty pounds, that of seventeene worth eight or ten pounds, and that of twelue, five and sixe pounds, according to the goodnesse of the wood, insomuch that the longer a man is able to stay, the greater sure is his profit: but fewell, and fence must of necessity be bad, and if a man have but twelue acres of wood, I see not but he must be forced to take every yeere one acre for his owne reliefe, and if he take more, he must either necessarily spoyle all, or drive himselfe into extreame want in few yeeres following: and therefore it is meete that every good husband shape his garment according to his cloth, and only take plenty where plenty is; yet with this husbandly caution that ever the elder your sale is, the richer it is, as you may perceive by the well husbanded Woods of many Bishoprickes in this Land, which are not cut but at thirty yeeres growth.

The devision of *Woods.*

The valew of under-wood.

Of the sale of vnder-wood.

When you have made your devisions according to your quantity, you shall begin your sale at an out-side where

where cariages may enter without impeachment to the ſprings you intend not to cut, and a pole or halfe pole according to the quantity of ground, you ſhall preſerue (being next of all to the outmoſt fence) to repaire the ring-fences of your Wood, and to ſeperate the new ſale from the ſtanding Wood: and this amongſt Woodwards is called Plaſh-pole. Then at the latter end of Ianuary you may begin to cut downe your under-wood, and ſell it eyther by acres, roodes, perches, poles, roddes, or dozens, according to the quantity of your Earth, or the ability of your buyers. And in this ſale I cannot ſet you downe any certaine price, becauſe true judgment, and the goodneſſe of your wood muſt only give you direction, things being over valewed according to their worth, and ſubſtance, and this ſale or the cutting downe of under-wood, you may continue from the latter end of Ianuary, till midde Aprill, at which time the leaſe begins to bud forth, or ſomewhat longer if neceſſity urge you: the like you may alſo doe from the beginning of September, at which time the Leafe beginnes to ſhed till the middeſt of November.

How to cut under-woods.

Now for the manner of cutting downe your under-woods, although the Lawes of the Kingdome ſhew you what duty you ſhall performe therein, what Timber you ſhall preſerue, and how neere each Weaner ſhall ſtand one to another, yet I would wiſh you both for your owne, and the Common-wealths ſake, to performe ſomewhat more than that to which you are by Law compelled, and therefore you ſhall give direction to your wood-fallers, that when they ſhall meete with any faire, and ſtraight well growne ſapling, Oake, Elme, Aſh, or ſuch like, to preſerue them, and let them ſtand ſtill, being of ſuch fit diſtance one from another, that they may not hinder or trouble each other in their growing, and when you ſhall finde upon a cluſter many faire Plants or Saplings; you ſhall view which is the faireſt of them

all, and it preserue on'y, and the reſt cut away that it may proſper the better: alſo if you finde any faire, and well growne fruit-Trees, as Peares, Cheſnuts, Serviſſes, and ſuch like, you ſhall let them ſtand, and cleare them from the droppings of the taller trees, and you ſhall finde the profit make you recompence. Now for the generall cutting up of the wood, you ſhall cut it about ſixe inches above the ground, and drawing your ſtroks upward, cut the wood ſlopewiſe, for that is beſt to haſten on the new Spring, and thoſe Weaners or young which you preſerue, and ſuffer to grow ſtill, you ſhall prune, and trimme as you paſſe by them, cutting away all ſuperfluous branches, twiggs, and young ſpyers, which ſhall grow eyther neere unto the root, or upon any part of the boale, which is fit to be preſerved for Timber, and if you ſhall finde that the earth have by any caſualty forſaken the root, and left it bare, which is hurtfull to the growth of the Tree, you ſhall lay freſh earth unto it, and ram the ſame hard, and faſt about it.

The fencing of ſalles.

Thus when you have made an end of cutting downe your ſale, and that the wood is cleanſed, and carryed away, and all the looſe, and ſcattered ſticks raked up into ſeverall heapes, and carryed away alſo; for it is the part of every good husband, and Woodward, not to ſee any wood lye, and rot upon the ground: you ſhall then with the underwood preſerved in the Plaſh-pole, devide by a ſtrong hedge this new cut downe ſale from the other elder growne wood, and for ten yeeres, as before is ſpoken, not ſuffer any foure-ſooted beaſts to come within the ſame; from which rule you ſhall learne this leſſon, that it is the Woodwards duty every day to looke over all his young Springs, and if by any miſchance or negligence Cattell ſhall happen to breake into them (as many times they doe) then ſhall he not only drive forth or impound ſuch Cattell, but alſo ſurvay how farre, and which Plants they have cropt, and having

The *wood*-wards duty.

ving spied them, with his wood Bill, presently cut the Plants so brouzed close by the bottomes of the last shuts, and then they will newly put forth againe, as well as if they had never bin hindred: which done, he shall finde out where the Cattell brake in, and then mend the same, so well, and sufficiently, that it may prevent the like mischiefe. Also if these young springs shall stand neere unto Forrests or elder Woods, which are full of wilde Deare, and be no purlewes belonging unto the same, the Woodward then shall never walke without a little dogge following him, with which he shall chase such Deare out of his young Springs, because it is to be understood, that the brouzing of Deare is as hurtfull to young wood, as that of any other Cattell whatsoever. And thus much touching the ordring, and government of under-woods, with their sales, and the nourishing up of greater Timber.

Chap. 3.

Of High Woods, and their Plantation.

High Woods are those which containe only Trees for Timber, and are not pestred or imbraced with the under growth of small brush Wood, such as Hazels, white Thorne, Sallowes, and Poplar are; these for the most part consist of Oakes, Ash, Elme, Beech, Maple, and such like, growing so remote, and separate one from another, that although their tops, and branches meete, and as it were infold one within another, yet at the roots a man may walke or ride about them without trouble. These high Woods had their first beginnings from the seed, as was before declared, and nourisht from age to age amongst the under-woods, which, when men began to want food for their breed-Cattell, and that from the super-abundance

What high Woods are.

The beginning of high Woods.

dance of young Woods, they found some might conueniently be spared, they forthwith instead of cutting downe their young Wood aboue the earth, began to digge it up by the roots, and with stub Axes to teare the maine sinewes from the ground, so that it might not renew or encrease againe, and then levelling the earth, and laying it smooth, and plaine, to leave nothing standing but the talle timber Trees, betweene which the grasse had more liberty to grow, and Cattell more abundance to feed on, and all be not so long, and well able to fill the mouth, as that which grows in the thicke springs, yet much more sweet, and better able to nowrish any thing that shall grase upon the same, by reason that the Sunne, and Frosts having more free power to enter into the ground, the earth is so much the better seasoned, and bringeth forth her encrease with more sweetnesse.

The Plantation of high *Woods.*

Some are of opinion, that these high Woods may as well be planted as sowen, and that many of them from the first beginning have beene so, to which opinion I consent in part: for doubtlesse I am perswaded, that many small Groves of Ash, Elme, Beech, and Poplar have beene planted, for we see in our daily experience, and the new walkes in *More fields* by *London*, are a perfect testimony, that such Plantations may be without trouble or danger; but for the Oake to be taken up, and replanted, is very hard, and very seldome in use, neither shall a man in an whole age see any Oake removed come to perfection or goodnesse, but grow crooked, knotty, and at the best, but for the use of fewell only: but for the other before rehearsed, you may remove them when they are a dozen yeeres of age, and plant them where you please: and if the earth have in it any goodnesse at all, they will take root, and grow both speedily, and plentifully. And since I am thus farre entred into the plantation of Woods, I will shew you how you shall plant, and remove every Tree in his due manner, and season.

And

And firſt for the planting of the Elme, which is an excellent Tree for ſhadow, and the adorning of walkes or dwelling houſes, you ſhall make choyce of thoſe Plants which are ſtraighteſt, ſoundeſt, the barke even, and untwound, and at leaſt eighteene or twenty inches in compaſſe: theſe you ſhall digge out of the ground, root, and all, then at the top of the head, about three fingers under the knot, where the maine armes ſeverally iſſue forth, you ſhall a little ſlope-wiſe cut the head cleane off them, and mixing clay, and a little horſe-dung, or fine aſhes together, cover the head round about therewith, then over the ſame wrap Moſſe, or fine Hay, and binde it about with ſoft cloven Oziers, or ſome ſuch like bands, then with a ſharpe pruning Bill cut euery ſeverall branch of the root within a finger or two of the ſtocke: which done, and the root pickt cleane, you ſhall make a hole to be digged in the place, where you meane to plant the Elme juſt of that depth, the hole was from whence you digged out the Elme, that ſo much, and no more of the Elme may be hidden in the earth, then was formerly at his removing; and this hole you ſhall make ſpacious, and eaſie, and that the mould be ſoft, and looſe both underneath, and round about the root of the Elme, which done, you ſhall place your Elme in the ſame, ſtraight, and upright, without eyther ſwaruing one way or other, which for your better certainty, you may prove eyther with plumbe, levell, or other inſtrument, which being perfected, you ſhall with rich freſh mould well mixt with old meanure, cover, and ram the ſame faſt in the earth, in ſuch ſort, that no reaſonable ſtrength may move or ſhake it: and all this worke muſt be done in the encreaſe of the Moone, eyther in the moneth of October, or the latter end of Ianuary: but the latter end of Ianuary is ever held the beſt, and ſafeſt, for there is no queſtion but you ſhall ſee flouriſhing Trees the next Summer after: and in this ſort you may likewiſe

The Planting of *Elme.*

wise remove eyther Beech, Witche, or Popler, bestowing them eyther in Groves, Walkes, Hedgerowes, or other places of shadow, as shall seeme best to your contentment: for their natures being alike, their growths, and flourishings have little difference.

Of plantting the *Ash.*

Now for the replantting or removing the Ash, though not much, yet there is some difference, for it is not at the first so speedy a putter forth, and flourisher, as the others be: but for the first yeere laboureth more to bestow, and fixe his root in the earth, then to spread forth his upper branches, and although some Woodwards are of opinion, that so much as the Ash is above ground, so much he will be under before hee begin to flourish outwardly, yet experience doth finde it erroneous, for though it be for the first yeere a little slower then other Trees, yet when it beginneth to flourish, it will overtake the speediest grower. Therefore when you doe intend to plant Ashes for a speedy profit, you shall not according to the old custome chuse the smooth, small, long Plants, which are hardly three inches in compasse, and have put out hardly any branches, and are such as grow from the roots of elder Ashes cut downe before, which our ancient Wood-wards have used to slip or cleaue from those roots, no, these are the worst sorts of Plants: but you shall take the true ground-Ash, which springeth from his owne proper root, being smooth, even, sound, and straight, without bruise, canker, or other impediment. This you shall digge up by the root, being as is before sayd almost twenty inches in compasse, and having cleansed the roote, you shall leave each spray not above halfe a foot, or eight inches in length: but for the small threds or tassels of the root, those you shall cut cleane away close by the Wood, and so plant it in every poynt, as was shewed you for the plantting of the Elme, only the top thereof

you

you shall by no meanes cut off, because it is a Tree of pith, which to devide or lay bare, were very dangerous; and the best season for the planting of this Tree, is ever in the encrease of the Moone, at the fall of the leafe, which is from the beginning of October till midde November, and at no other time, for it would ever have a whole Winter to fasten his roote, and to gather strength, that it may bud forth his leafe the Summer following. Thus you see how you may plant Groves or Copses at your pleasure, and make unto your selfe high Woods according to your owne pleasure. But you will object unto me, that you live in such a champaine Country, that albe these Plantations might breed unto you infinite pleasure, yet the poverty thereof in Wood is such, that these Plants are not there to be found for any money. To which I thus answere, That in this Kingdome there is not any Country so barren, or farre off remote from Wood, being a soyle fit to receive Wood: But his next neighbour-Country is able to furnish him, especially with these Plants at an easie reckoning: as for example, I hold *Northampton-shire* one of the barrennest for Wood, yet best able to beare Wood, and hath not he his neighbour *Huntington-shire*, and *Leicester-shire* about him, where nurceries of these Plants are bred, and preserved for the sale only? Nay, even in *Holland* in *Lincolne-shire*, which is the lowest of all Countries, and most unlikely to hold such a commodity, I have seene as goodly Timber as in any Forrest, or Chase of this Kingdome, and thus much for the planting of high Woods.

Objection.

Answer.

CHAP. 4.

Of the preseruation, and sale of high Woods

IT is not sufficient for the Husbandman to sow, plant, and encrease wood about his grounds, converting his Earth to the uttermost, and extreamest profit that may spring from the same: but he must also be diligent to preserue, and nouriſh his timber Trees from all inconveniences that may any way annoy or afflict them: and to this end he shall daily walke into his VVoods, and with a searching eye surnay every Tree which is of any account, and see if he can finde any fault or annoyance about the same; & if casting his eye up to the top, where the maine armes shoote forth themselves, he perceive that by the breaking off some arme or other riven Boughes, the wet, and droppings of the Leaves is sunke, and fretted into the Timber, which in time will corrupt the heart, and make the Tree hollow. In this case he shall presently mount the Tree, and with his Bill, eyther cut the place so smooth that the wet may not rest thereon, or else having smoothed it so much as he may with convenience, mixe stiffe Clay, and fine Hay together, and with the same cover the place, in such manner, that it may put off the wet till it have recovered new Barke.

Of Trees which take wet inwardly.

Of Barke-bound.

If hee shall perceive any of his younger Trees to *Barke-bound*, that is, so stiffe, and straitly tied within their owne rynds, that they cannot encrease or prosper; in this case he shall with a sharpe drawing knife, made in the proportion of a narrow *C* draw, and open the barke even from the top of the Bole of the Tree downe to the roote, and then clap Oxe-dung into those slits, let the Tree rest, and in short space you shall see it mightily encrease.

Of Hornets, and Dores.

If he shall perceive that *Hornets*, *Dores*, or such like

like have found some little hollownesse in one of his Trees, and seeketh there to shelter, and hide themselves, which in little space they will soone make larger, he shall forthwith besmeare all the place with Tarre, and Goose-dung, and it will drive them thence.

If hee shall finde that by the droppings of other Trees, some of his Trees shall grow cankerous, and loose their barke, which is an accident very usuall, and the Trees whose barks are so lost, will with great difficulty after prosper. In this case he shall annoynt the place with Tarre, and Oyle mixt together, and then cover the place with Clay, where the barke is wanting. Of the *Canker*.

If hee shall perceive any *Pismyer* hilles or beds to be made against any of his Trees, which is very noysome, for they are great destroyers of the barks of Trees: he shall then with hot scalding water kill them, and throw the hill downe levell, and plaine with the Earth. Of *Pismyers*.

If he shall finde any *Iuy*, *Woodbine*, or *Mysteltoe* to grow in or about any of his principall Trees, which doe strangle, suffocate, and keepe them from encreasing, he shall forthwith digge up the roots thereof, and then cut it away or loosen it from about the barks of the Trees. Of *Iuy*, *Woodbine*, and *Misseltoe*.

Lastly, if hee shall perceive that by *Thunder*, *Lightning*, or other plantarie strokes, any of the armes of his well growne Trees be blasted or slaine, he shall forthwith cut them away, even close to the quicke VVood, and make the place smooth, and even where they were joyned: thus shall the carefull Husbandman with a vigilant eye, regard every enormous, and hurtfull thing that may offend his Timber, and by that meanes possesse more benefit from a few Roodes, then others doe from many Acres. Of *Thunder*, and *Lightning*.

Now when eyther necessity or the vrgent accasi- Of the sale of tall *Woods*.

ons of any needfull uſe enforceth a Husbandman to make ſale of any part of his tall Wood, in which Marchandiſe there is many pretty, and obſcure ecrets, ſuch as are hard to be ſhewed by any Verball demonſtration, for truly there is not any trucking or marting whatſoever, in which a man may ſooner deceive, or be deceived, men buying, and ſelling in a manner hoodwinkt: for it is moſt certaine that no man can certainely tell eyther what penyworth he ſelleth, or the other buyeth, ſo long as the Tree is ſtanding. there be in Trees, ſo many ſecret faults, and likewiſe when they are downe, and come to the breaking or burkning (as the Woodman tearmes it) ſo many unexpected vertues, as for mine owne part I have often ſeene a Tree whoſe outſide hath promiſed all good hope, the barke being ſmooth, and even, the body large, and great, and the armes high ſet on, and ſpaciouſly extended; yet when this Tree hath beene felled, and came to burkning, there hath beene found a hole in the top, which hath runne cleane thorow the heart, and utterly ſpoyled the whole Timber: ſo likewiſe on the contrary part I have ſeene a Tree very foule at the top, which is ſuſpitious for rottenneſſe, whoſe armes have growne ſo cloſe, and narrow together, that they have promiſed little burthen, yet being cut downe, I have ſeene that Tree paſſing ſound, the armes double the loads in valuation, and the price being leſſe then any, the proofe, and goodneſſe to exceed all, ſo that I muſt conclude it all together impoſſible to ſet downe any fixed, or certaine rules eyther for the buyer or ſeller: but for as much as there are divers worthy obſeruances for both parts, and that it is as neceſſary to buy well as ſell well, I will runne through every particular obſervation, which doth belong both to the one, and the other party, with which when a mans mind is perfectly acquainted he may with much bolder confidence adventure to buy or ſell in the open Market.

The

The first thing therefore that eyther buyer or seller should be skilfull in, is the choyce of all sorts of Timbers, and to know which is fit for every severall purpose, the crooked, and uneven being for some uses of much higher price, and reckoning then that which is plaine, straight, and even growne, as thus for example. How to chuse Timber.

If you would buy Timber for Mill-wheeles, the heads of round Turrets, or any kind of worke whatsoever, you shall chuse that which is crooked, and somewhat bent, being sound, firme, and unshaken. Of *Mill-Timber.*

If you will chuse Timber for Summer-Trees, Baulks, Iawmes, or Tracens, you shall chuse that which is most harty, sound, and much twound, or as it were writhen about, which you shall with great ease perceive by the twinding or crooked going about of the barke, the graine whereof will as it were circle, and lap round about the Tree. This Timber which is thus twound or writhen, will by no meanes rive or cleave assunder, and therefore is esteemed the best to support, and beare burthen, and the heart thereof will endure, and last the longest. *Timber* to beare burthen.

If you will chuse Timber for Pales, Singles, Coopers-ware, Wainscote, or such like, then you shall ever chuse that which is smooth, even, and straight growne, without any manner of twinding of shaking, which you shall perceive by the straight, and even growing up of the barke whose crests will ascend straight, and upright, even from the root to the top which is an assured token that all such Timber will shiver, and ryue into as thinne parts as a man would desire. *Timber* for *Pales, Wainscote,* &c.

Lastly, if you would chuse Timber to make Pyles of, to drive into the earth, for the framing of Weares within the water, the heads of Ponds, or any other worke within the water, then you shall chuse that which is most knotty (so it be sound) for that will drive without splitting, and continue in the earth the longest: *Timber* for *pyles,* or *Water-workes.*

and

and of all Timbers the Elme is accounted the best for this purpose, for it will continue almost everlastingly in the Earth without rotting; yet notwithstanding, the Oake is excellent good also: and thus much for the generall choise of Oakes.

Vse of the *Elme.*

Now if you would chuse Timber for weather-boards, or to bee used in water-workes, to make Planks for low moist Vaults, then you shall chuse the biggest, soundest, and smoothest growne *Elme*, it is also excellent good to make Kitchen tables of, or for boards for the use of Butchers. If you will chuse the most principallest Timber, for Cart or Waine Axel-Trees, for the naves of wheeles, or for any other use of toughnesse, you shall chuse the *Elme* only, for it exceedeth all other Timbers, and though some Husbandmen are of opinion, that the *Elme* Axel-Tree when it is throughly heated, is then most apt to breake, they are much deceived, for it will endure farre beyond Ash or any other Timber, except Yewgh, which for the scarsity is now of little use in such a purpose. And herein you must obserue, that the *Elme* which you chuse for Axel-Trees must be straite, smooth, and without knots, but that which you chuse for naves, must be most knotty, twound, and the hardest to be broken or hewed asunder.

Vse of the *Ash.*

If you will chuse Timber for Ploughes, or ordinary Axel-Trees (for those of *Elme* are speciall) the rings of wheeles, harrow bulls, and such like, then you shall chuse the faireſt, straighteſt, biggeſt, and smoothest growne Ash that you can finde, and from the roote end upward, you shall cut out a length of Axel-Trees, above it a length of shelbords, and above it (if the Tree be so large) a length for heads, and Skeaths; the largest which are somewhat bending, you shall elect for rings for wheeles, and so according to the bigneſſe of the Ash, and as your eye can proportion out what will be made of the same, you shall make valuation thereof.

If

If you would chuſe Timber for joyned Tables, Cubbords, or Bedſteds, you ſhall then make choyſe of the faireſt Walnut-tree you can finde, being old, ſtraight, unknotted, and of a high boale: and although either Oake or Aſh will reaſonably well ſerue for this purpoſe, yet the Walnut-tree is by many degrees the beſt of all other, for it is of ſmootheſt graine, and to the eye moſt beautifull, provided that by no meanes you put it into any worke, before it be exceedingly well ſeaſoned. *Vſe of the Wall-nut-tree.*

If you would chuſe Timber for Ioynt-ſtooles, Chaires, or Cheſts, you ſhall then chuſe the oldeſt Peare-tree ſo it be ſound, for it is both ſmooth, ſweet, and delicate, and though it be a very ſoft Wood, yet in any of theſe frames it is an exceeding long laſter, and the heart thereof will never breed worme, nor will it in any time looſe the colour. *Vſe of the Peare-tree.*

If you would chuſe Timber for Trenchers, Diſhes, or any Tourners ware, or for any in-laying worke, you ſhall then make choyſe of the faireſt, and ſoundeſt Maple, being ſmooth, and unknotted, for it is the plaineſt graine, and the whiteſt Wood of all other: and although eyther the Beech or Poplar will reaſonably well ſerue for theſe purpoſes, yet is neither the colours ſo good, nor the Timber ſo long laſting. Many other Trees there are which may ſerve for many other purpoſes: but theſe are of moſt uſe for our Engliſh Husbandman, and will ſufficiently ſerue to paſſe through all his buſineſſes. *Vſe of the Maple, Beech, and Poplar.*

Touching Char-coale, you ſhall underſtand, that Oake, Elme, and Aſh, make your longeſt, and beſt enduring Coale: the Birtch the fineſt, and brighteſt Coale, and the Beech or Sallow the ſwifteſt Coale. Now for your ſmall Coale, the twigges of the Birtch makes that which kindles the ſooneſt, and the white-Thorne that which endures the longeſt. *Of Charcoale.*

Thus when you know how to chuſe every ſeverall Tree *How to vale Timber.*

Tree, and the true use, and profit which can any way be made of the same, and by a practised experience can cast by the survay, and view of a standing Wood, the almost entire profit that may arise from the same, deviding in your memory how many are for every severall purpose, and to what reckoning they may amount one with the other, and blemishing (if you buy) the good with the bad, or making good (if you sell) the bad with those good ones which grow neere them, you may then boldly venture into any sale either as buyer or seller at your pleasure, and sure if you know (as it is fit you should doe) the Marketable prices of all sorts of Timbers in those places, where you are either to buy or sell, as what a Mill-post is worth, what so many inches of well squared Timber, contayning so many foot in length, what a dozen of boards of such a size, what so many naves, spoakes, rings, sparrs, or tracens, or what so much sound, and good Plough Timber is worth, and then looking upon a Tree, and computing what may every way be made of the same, allowing the waste which will hardly sometimes defray the charge of breaking up the Tree, you cannot but with great ease draw into your minde the true value of every Tree, and the uttermost profit or losse may any way rise from the same.

How to measure *Timber* by gesse.

And in this worke I would have you to observe this rule very carefully, that is, when you come to any great Timber-Tree, to fathome or embrace it about with both your armes, and then knowing what quantity your fathome is, and how many fathome girdleth the Tree round about, you may from former experience give a certaine gesse what inches of squared Timber that Tree will beare, for if you have found in former trials that twice your fathome in the rough barke hath borne twenty, or two and twenty inches squared, and now finde that the present Tree on which you looke, is no lesse, but rather with the bigger, you may boldly presume, that being sound, this Tree can carry

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no lesse square of good Timber: and thus much for the knowledge, and choise of tall Woods.

Now to come to the seasons, and fittest times for sale of these high Woods: you shall understand that it is meete for every good husband which intendeth to sell any of his high Woods, to walke into the same immediately after Christmas, and whether they be in woods, Groves, hedge-rowes, or other places, to marke with a speciall marke all those Trees which he intendeth to sell, as well for the weeding, and cleansing out of all such as are decayed, and wasted, as also to know the true number of both the good, and bad, and thereby in some measure to compute the profit which will arise from the same, for to make sale of them otherwise confusedly, might bring much losse to a man, happily selling away those that would encrease their valews, and keepeing them which daily would decrease their goodnesse, or so unorderly unmixing his Wood, that where one faire, and good Tree would draw a mans eye from beholding divers which are doated, now that only taken away, the rest will remaine, and neuer be sale-able, and therefore ever as neere as you can so suite, and match your Trees together, that in your sales you may never passe away an absolute worthy Tree, but you may ever couple some which have defects to goe with it, as in these dayes we see Warriners, and Poulters sell Rabbets, a fat, and a leane ever coupled together. VVhen you have thus marked out what you meane to sell, and disposed your sale according to your best profit, after notice given unto the Country in the Market Townes neere adjoyning, you shall begin your sale the Candlemasse following, which sale you may continue all the Spring, according to the greatnesse thereof, or the quicknesse of buyers. Now for any rules or orders to be obserued in these sales, I can prescribe you none certaine, because it is meete that every one binde himselfe to the customs of the Country in which he liveth, whose variations are divers,

Best reasons for the sale.

The time for Chap-men.

for almost every one is severall, only in the maine they hold together, which is that they seldome make publike sales for money downe upon the head, but for a certaine payment some few moneths after, which makes the Merchandise more lookt to, and the sales goe away the faster: and in this the Sales-man must be circumspect in the choise of his Chap-men, and where he findeth any doubt there to make one neighbour stand bound for another: as for the earnest penny it is ever over, and above the price, and must be laid downe at the binding up of the bargaine, which earnest is in some Countries foure pence in the pound, in some eight pence, and in some twelue pence, according to the goodnesse of the Timber, and hath ever beene taken for a fee due to the Sales-man for his paines, and attendance, and sure if he be carefully honest, it is a merrit well bestowed: if otherwise, it is much too much for falshood, for in him consists the owners losse or profit, and therefore it may become any man, of what place so ever, to take a strickt account from such an officer: or if he have any doubt, ever to ioyne with him in commission, another of contrary faction.

When to cut downe *Timber*.

When you have made sale of your Timber, you shall by no meanes let it be cut downe till the end of Aprill, at which time the sap ascending upward, will loosen the barke, and make it come from the body of the Tree easily. You shall cut your Timber downe close by the Earth, not digge it up by the roots, unlesse you meane utterly to destroy it, for from the spurnes of the roote will arise new Spiers, which in processe of time, will come to another Tree. As soone as you have felled your Oakes, you shall with your Axe immediately whilst the sap is wet, take all the barke from the body, and the armes, and setting it end-wayes up one by another, so place it, that the winde may passe thorow it, and dry it, and then sell it to the Tanners, which will give you a good price for it, according to the worth,

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and scarsity therof. When your trees are barkt, you shall then sawe the body into such lengths of Timber, as shall be meet for the purpose for which it is bought, or in such sort as it may be best profitable: the armes also you shall hew from the body, and so burken or breake them up, as they may be fit to be loaded: all which done, and the Timber carryed away, you shall if you intend to have the Wood renew, fence in the sale, and keepe it safe from Cattell; and thus much for the preservation, and sale of high Woods.

Chap. 5.

Of the breeding of Wood, in rich champaine soyles.

Nature which is the most perfect workemistris of all things (as all the Philosophers say) but I say our good God out of his most divine wisedome, hath allotted to every soyle, if we note it, through the whole course of this Kingdome, particular profit to sustaine, and maintaine it, as to some Mines, to some Timber, and to some fertility of Grasse, and Corne, and where any one of these are, there commonly some of the other is ever wanting, as we see daily in our experience; and for as much as in the fruitfull, and fertile soyles of this Land, of which we esteeme the wealthy Vales, as that of *Essam*, *White-horse*, *Beluoire*, and many others the best, there is ever great scarsity of Wood, the very wealthinesse of the soyle it selfe almost denying to beare such burthen, because for the most part the stiffnesse of those Clayes is contrary to their growth, yet for as much as the necessity, and use of Wood is so great, and valuable, I would perswade every good, and worthy Husbandman, to endeavour himselfe with all his utmost power, and strength, to plant Wood

in every convenient place round about him, and not to take the rules of the ignorant for his lesson, that sith never any did grow there, therefore never any will grow there; for it is absurd, and foolish; nor to say because my ancestors have never done it why should I attempt it? These arguments are made from a false figure, and the Husbandman must remember that his duty is industry, and encrease not altogether imitation, and president, and he must as seriously finde out new, and neerer profits, as hold those he hath learned; and therefore he shall endeavour by all commendable labour to have ever about him whatsoever is necessary for his use; but you will peradventure answere me, that to plant Woods in these rich soyles, were very much losse, because the fertility thereof will yeild a much better profit. To this I reply, that I would not have you plant any spacious piece of ground with Wood, but only your ditches, hedges, and such wast earths, as almost deny any other profit, and that the want of Wood in those places may not discourage you, to imagine that Wood will not grow there. Doe but view the cytes of every Towne in those rich Countries, the seats of Noblemen, and Gentlemens houses, and the Parks which commonly are adjoyning thereunto, and you shall hardly see any of them without the fellowship, and acquaintance of some Wood, which in times past hath beene planted eyther for defence or pleasure, and from thence collect that if Wood will grow with my next neighbour, then why not with me, so long as the soyle doth not alter? But *Labor improbus vincit omnia*, True industry was never fruitlesse. Then for the generall good both of your selfe, and your neighbours, looke that you repleniſh all your ditches, and ring fences, with good store of Quick-set that is to say, all that lye high, and out of the danger of water with white-Thorne, black-Thorne, and Bryer, and those which are low, and subiect to wash-

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ing, with Willowes, Sallowes, and Ozyers.

How to set all sorts of Quick-set.

Now for as much as it is not enough to say unto the Husbandman doe this, but that I must also shew the manner of doing thereof: I will shew you briefly how to set all manner of Quick-sets, and first for the white-Thorne, black-Thorne, Bryer, or such like, which must stand free from inundation, you shall when you enclose any peece of ground, after you have markt out the true breadth of your dyke upon the inside thereof, and close by the verdge of the dyke, cut with your spade a little trough, halfe a foot or there-abouts in breadth, and depth, in which trough or small gutter, you shall lay the roots of the first row of your Quick-sets, so as the top end's may looke upward, and little bend in towards the ditch, and these Quick-sets you shall place within lesse then a foot one of another; then with your spade beginning to make your ditch, you shall with the first cleane mould, cover all the roots close, and fast, so as they will not shake nor stirre with your hand, then having raised the banke of your dyke, and covered the lowest row of Quick-set more then halfe a foot, and broken the earth so, as it may lie close, and handsome together: you shall then after the same manner lay another row of Quick-set over the first, I meane not one Quick-set directly over another, but the second row placed as it were in the midst betweene two of the first, though at least halfe a foot higher; then you shall cover that row like the former, and over it place a third, which shall stand directly opposite, and over the first, so that in their growth the middle row shall as it were grow betweene two of the lowest, and two of the highest: and then upon this uppermost row lay the remainder of your earth, and make your barke perfect, and in this sort finishing one yard of the ditch after another, you shall at length bring your labour to the end of your desire. Now in this labour you are to observe some speciall things, as first to looke well upon your Sets before you put them into

into the ground, and be ſure that they be greene, young, and untainted, then that the roots be cleane, and no ſmall threeds or jagges hanging about them. And laſtly, that they ſtand upright, and not above foure or five inches without the earth the at moſt, then ſhall you looke well to the making of your banke, and lay the earth ſo as it may not ſlip or fall backe into the Dyke, ſo as the raine may not waſh away the mould, and leave the roots bare: but let all things be done ſtrongly, and artificially. The beſt ſeaſons for this worke is the moneths of February, March, and Aprill, or September, October, and ſome part of November: if the weather be dry above head. When you have ſet your Quick-ſet, you ſhall make a dead hedge upon the top of the new banke, to keepe thoſe Cattell which are within your ground from breaking forth or hurting the Quick-ſet: and another ſmall fence on the low verdge of the dyke which is outward, to keepe thoſe Cattell which graſe without from running into the dyke, and hurting the Quick-ſet. Now after a ſpring, and fall is paſt, you ſhall ſuruay all your Quick-ſet, and weede it cleane from all manner of filthyneſſe that doth choake or ſtifle it, and ſcratching the freſh mould about it give comfort to the root: then if you perceive that any of your Sets be dead, you ſhall plucke them up, and place new in the roome, and if any be blaſted in part, and not cleane killed, you ſhall cut away ſo much as is blaſted, and let the reſt remaine, you ſhall looke well to the Caterpiller, and other wormes which mightily devoure Quick-ſets, eſpecially in theſe fat Countries, and if you finde any taint of them, deſtroy them as is ſhewed you in a former Chapter.

Planting of greater Trees,

After your Quick-ſet is come to the age of three yeeres, and that the banke is ſetled, and ſwarth growne thereon, you ſhall then within the body of your hedges plant all manner of great Trees, as Aſh, Beech,

Mable, and ſuch like, and alſo all manner of fruit-Trees, as Aples, Peares, Plums, Wardens, and ſuch like, and in the firſt three yeeres be very carefull to preſerue each in his true proper nature, and doe to them all the rights which is due to their growth, and in that time obſerue which kind of Trees in the generallity proſpereth beſt, and agreeth moſt naturally with the ſoyle. And of thoſe Trees ſee that you furniſh your grounds moſt plentifully, the particular manner of planting whereof is already formerly declared. And hence doth *Kent*, and *Worceſter*-ſhire boaſt of their fruit, *Windſor*, *Sherwood*, and *Hollam*-ſhire their Oakes, and other particular Countries there particular commodities.

Now for the ſetting of Willow, Sallow, and Oziers, it is a thing ſo uſuall, and common, that it needeth no great art in the relation, yet becauſe I would be loath that any omiſſion ſhould be taken for negligence, you ſhall underſtand that in ſetting them you muſt firſt reſpect the place, which would ever be low, and moyſt, the water ſometimes waſhing them, ſometimes cooling them, and ever giving them comfort. Now to ſpeake firſt of the Willow, it would be ever planted upon banks, where it may ſtand more dry then wet, for ſuch proſper beſt, and endure longeſt, as for proofe, ſome will continue twelue, fifteene, nay one and twenty yeeres, where as thoſe which are ſet cloſe by the water, will hardly endure ſeven, but not above nine yeeres at the moſt. Touching their planting, they be ſet two manner of waies, but which is the beſt, is not yet agreed on amongſt Husbandmen. The firſt is to take an Augure full as large in compaſſe (though much ſhorter) as that wherewith you bore Pumps, and with it bore a hole in the earth two foot, and a halfe deepe, then having headed ſome of the choyſeſt Willowes you have, take the faireſt, and ſtraighteſt of thoſe lops, and then cutting them ſlopewiſe at both ends, and

Of the ſetting of Willowes, &c.

leaving no superfluous twigs cleaving thereby unto, put the bigger end downe very hard into the Earth, and then with the mould which came forth, with the Augure ram the Earth close, and hard about the Set, so as no reasonable strength may shake it. Now there be other Husbandmen which in steed of the Augure take only an Oaken or Ash stake, of the bignesse of an usuall set, and with a Beetell drive it into the ground two foot, and a halfe, and then by shaking, and opening the Earth, pull it out againe: then put in the Set as is before shewed, and beate, and tread the Earth close thereunto, and there is no doubt of the well prospering thereof. Now for the defects which Husbandmen finde in these two severall plantings. Some say, that the Augure taketh out so much Earth, that the Set cannot but stand loose at the roote, and so wanting full hold of the Earth, eyther takes not at all, or continues but a little space. Others say that the driving in of the stake beats the Earth so hard together, that it withstandeth the passage of the tender sprouts, and so killeth the set, but both are deceived: for these are suppositions, and experience daily shewes us, that these are the best, and speediest ways of setting of all sorts of Willowes that ever any time brought forth, and I have knowne one man set this way two hundreth Sets in a day, of which not one hath failed, but all prospered. Now for your Sallowes, you shall set them, and chuse the Sets in all poynts as you doe the VVillow, only they would be placed a little neerer the water, for they delight somewhat more in moysture, as for the Ozyer it would be set like other Quick-set in the side of bankes, so as it may almost touch the water, and as your Willows or Sallows would be set a little remote one from another, as namely tenne foote asunder: so these must be set close together, and in thicke rowes one against another; and these Ozyer Plants, you must cut from their head, being the principall spiers, which grow

grow thereon, and then cut off their tops, leaving them not aboue two foote long at the moſt, and of all other they are the quickeſt in growing.

The uſe of *Willowes, Sallowes*, and *Ozyers.*

And although Willow, Sallow, and Ozyer, are in our lawes eſteemed but as weeds; and no Woods, yet they be ſo profitable, that the Husbandman can hardly miſſe them, the Willow, and Sallow, ſerving for fence, and fewell, to make Harrows, Cart-ſaddles, and Horſe Hams, and the Ozyers, for fiſh Leapes, or Weeles, for Baskets, Scuttles, Fans to winnow with, and many other things full as neceſſary: therefore if you have any mariſh grounds that are uſeleſſe, bogge-myers, or Ilands in great Rivers, let them be imployed to the nouriſhing of theſe profitable weeds, and by making draynes thorow them to give the water paſſage, you ſhall in ſmall time bring them to earths of great profit, which conſideration where it rightly wayed, there would not be halfe ſo much waſt ground as is in this Kingdome.

Ordring of the *Willow.*

But to my purpoſe, when you have planted theſe VVillows, you ſhall after every floud, ſee if the water have driven any of them awry, or diſplaſe them, and immediately mend them, and ſet them up ſtraight againe. If any Cattell ſhall pill or barke them, you ſhall pull up ſuch Settes, and place new in their roome. Your VVillow ſet would by no meanes be too long at the firſt ſetting, for then it will never beare a good head, and too ſhort is likewiſe as unprofitable, therefore it is held to be five foot above the Earth, is a length ſufficient: you may head your VVillowes once in three yeeres, or five at the fartheſt, and when you ſee the bodies wax hollow, you may cut them downe for the fire, and fixe new Sets in their places.

Ordring of *Ozyer.*

The Ozyer to come to his true profit, and ſeaſon, asketh much pruning, and trimming, as namely you muſt keepe the ſtocke low, and never above halfe a foot above the Earth, you muſt picke them cleane from Moſſe,

and from the slime, and filth, which the over-flow of the water will leave upon them : you shall prune the small spiers, and make them grow single one by another, and if any shoot out a double stalke, you shall cut it away, you may head them every second yeere, at the fall only, and though some head them once a yeere, yet it is not so good husbandry, nor will the *Ozyer* be so tough or long lasting. The best seasons for the setting of the *Willow*, *Sallow*, or *Ozier* is, eyther any part of the Spring or Fall, and the best time to loppe the *Willow* or *Sallow*, is in the Spring for fence, and in the Fall for Timber or Fewell : but the *Ozier* would be cut at the Fall of the Leafe only. And thus much for the breeding of Wood in the rich champaine Countries.

Chap. 6.

Of Plashing of Hedges, and Lopping of Timber.

HAving already sufficiently in the former Chapter spoken of the planting of all sorts of quicksets, it is meete now that I shew you how to order the hedges being growne, and come to perfection. Know then that if after your Hedge is come to sixe or seven yeeres of age, you shall let it grow on without cutting or pruning, that then although it grow thicke at the top, yet it will decay, and grow so thinne at the bottome, that not only beasts but men may runne thorow it, and in the end it will dye, and come to nothing, which to prevent, it shall bee good once in seven or eight yeeres to plash, and lay all your Quick-set Hedges, in which there is much fine art, and cunning to be used. For this plashing is a halfe cutting or deviding of the quicke growth, almost to the outward barke, and then laying it orderly in a sloape manner, as you see

What Plashing is.

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a cunning hedger lay a dead Hedge, and then with the ſmaller, and more plyant branches, to wreath, and binde in the tops, making a fence as ſtrong as a wall, for the root which is more then halfe cut in ſunder, putting forth new branches, which runne, and entangle themſelves amongſt the old ſtockes, doe ſo thicken, and fortifie the Hedge, that it is againſt the force of beaſts impregnable.

How to Plaſh. Now to give you ſome light how you ſhall plaſh a Hedge, though divers Countries differ diverſly in theſe workes, yet as neere as I can I will ſhew you that which of the beſt Husbandmen is the beſt eſteemed. First, for the time of yeere eyther *February* or *October*, is paſſing good, and the encreaſe of the Moone would likewiſe be obſerved.

The time of yeere.

The tooles. For the tooles which you ſhall imploy, they would be a very ſharpe nimble Hatchet, a good Bill, and a fine pruning knife. Now for the worke you ſhall enter into it, firſt with your Bill you ſhall cut away all the ſuperfluous boughs, and branches which are of no uſe, or hinder your worke, and then finding the principall ſtemmes which iſſue from the maine root, you ſhall within a foot or leſſe of the ground with your Hatchet, cut the ſame more then three quarters thorow, ſo as they may hang together by nothing but the outward barke, and ſome part of the outward ſap, and this ſtroke muſt ever be ſloape-wiſe, and downeward: then take thoſe mayne bodies of the Quicke-ſet, ſo cut, and lay them ſloape-wiſe from you, as you would lay a dead Hedge, and ill the branches which extend from thoſe bodies, and would ſpread outwardly, you ſhall likewiſe cut as is before ſaid, and fould them artificially into your hand, and ever within a yard or two diſtance, where a prety Plant growes ſtraight up, you ſhall only cut off the top equall with the height of your Hedge, and ſo let it ſtand as a ſtake, about which you ſhall fold, and twind all your other branches. Now when you come to

the top of the hedge, which would commonly not be above five foot high, you ſhall take the longeſt, youngeſt and moſt plyant boughs, and cutting them as aforeſayd, gently binde in the tops of all the reſt, and ſo make your hedge ſtrong, and perfect: and herein is to be noted, that the cloſer, and thicker you lay your hedge (ſo there be nothing in it ſuperfluous) the ſtronger, and better laſting it will be. Many uſe not to bind in the tops of their plaſht hedges, but onely to lay the Quick-ſet, and no more; but it is not ſo husbandly, neyther is the hedge of any indurance: many other curioſities there be in the plaſhing of hedges, but this which I have already ſhewed, is ſufficient both for the Husbandmans benefit, and underſtanding.

The profit of Plaſhing.

The profit which ariſeth from this labour, is the maintenance, and defence of fencing, the preſerving, and encreaſe of Quick-ſet, and a continuance of amity amongſt neighbours, when one lives free from offending another. It yeildeth a good Maſt for Swine, and with the overplus thereof at theſe times of plaſhings, repaireth all a mans dead hedges, and brings good ſtore of fewell both to the Brew-houſe, Kitchin, and Bake-houſe.

The lopping of Timber.

Next to the plaſhing, is the lopping of Timber-Trees, which in thoſe Countries which are bare, and naked of Wood, is of much uſe, and though I cannot much commend it, becauſe it oft marreth the bodies of Trees, yet I muſt allow it for neceſſary, becauſe it is a needfull rate, which the Trees pay to their Planters.

What lopping is.

This lopping or heading of Trees, is the cutting off of the armes and uppermoſt branches of Trees, and ſuffering the body to grow ſtill, and it may very well be done once in eight or ten yeeres, eyther at the beginning of the Spring, or at the end of the Fall, as you ſhall have occaſion to uſe the Wood, and immediate after the Moone hath new changed.

The ſeaſon for lopping.

Now

Now for the manner of the worke, there is small curiosity to be used therein, if your Axe be good, and sharpe, for you shall but cut off the armes, and boughs, smooth, and cleane without nickes, rifts, or gutters, or any thing which may receive wet, whereby the Tree may be cankred, and spoyled. Also in cutting away of the armes, you shall have a great care rather to cut them away (if it be possible) upward then downeward, least when you cut them downeward the waight of the arme suddenly falling downe, rive, and teare the barke of the body of the Tree, which is dangerous, and hath beene the spoyle of much Timber: which to prevent, you shall ever before you strike any blow above, make a good large nicke underneath, and then after cut it downe from above, and so the Tree shall receive no hurt. Also you shall observe to cut the armes close by the body of the Tree, and never to desist till you have made the place as plaine, and smooth as may be, for to doe the contrary, is neyther workmanly, or the part of any good husband. And thus much touching the plashing of Hedges, and lopping of Trees. How you shall lop Timber.

Chap. 7.

Of pasture grounds, their order, profit, and generall use.

HAving already sufficiently entreated of errable Grounds, Gardens, Orchards, and Woods of all kinds, I thinke it most meete (as falling in his due place) here to write of Pasture grounds, which are of two kinds: the first, such Pastures as lye in Wood-land, mountainous, or cold climes, and are enclined to hardnesse, and barrennesse, and therefore only imployed to the breeding, and bringing forth of Cattell: the other such as lye in low, warme, and fruit Diversities, and use of Pasture.

fruitfull ſoyles, and are moſt fertile, and abundant in encreaſe, only imployed to the fatting, and feeding of Cattell.

Of barren Paſtures.

And now to ſpeake of the firſt ſort of Paſture, which being ſomewhat barren, is preſerved for breeding, you ſhall underſtand that it is generally diſpersed over all this Kingdome, and particularly into every Country, for according to the veines, and mixture of the earth, ſuch is eyther the richneſſe or poverty of the ſame, and of thoſe ſeverall mixturs I have ſpoken ſufficiently before in that part of this Booke, which entreateth of errable ground. Then to proceed to my purpoſe, it is the firſt office of the Husbandman when he ſeeth, and knoweth the nature of his earth, and perceiveth from perfect judgment that it is of very hard encreaſe, which as the temper, and mixture of the ſoyle aſſures him, ſo alſo he ſhall better confirme by theſe few ſignes, and characters, which I will deliver: as firſt, if he ſee graſſe ſlow of growth, and that no ſpring will appeare before May, if inſtead of Clover-graſſe, Dandylion and Hony-ſuckle, you ſee your ground furniſhed with Peni-graſſe, Bents, and Burnet. If you ſee much Knot-graſſe, or Speare graſſe, or if you perceiue the ſcorching of the Sun burne away the graſſe as faſt as the raine had brought it forth: or if you find quaries or ſtone neere unto the upper ſwarth of graſſe; or if your ground bring forth Lyme, Bracken, Gorſe, Whynnes, Broome, Bilbury, or Strawbury; or if your ground be moriſh, full of quick-myers, moſſie or full of blacke-Flint, any of theſe ſignes make it to be moſt apparant that the ſoyle is barren, and of hard encreaſe.

Signes of barrenneſſe.

Bettering of ſoyles.

And then as before I ſayd it is the Husbandmans firſt office to provide for the bettering, and perfecting of his earth, which he ſhall doe in this ſort. Firſt, if he perceive that the barrenneſſe of his ground proceeds from want of good Plants, as from want of Clover-graſſe, Dandylion, Honiſuckle, Cowſlop, and other ſweet flowers, then

Sowing of good ſeed.

then he shall repaire into the fruitfull Countries, and there buy the Hay-seeds, and sweepings of Hay-barne-flowers, which he shall every spring, and fall of the leafe, sow, as thin as may be, upon such Pastures, as he shall eyther lay for Medow, or preserue for the latter spring, after Michaelmas. But if he respect not the goodnesse of grasse, but the abundance of grasse, as those husbands doe which liue in or about great Cities, then he shall dung those grounds which he will lay for medow at Candlemas; or those which he will grase or eate in the first beginning of the Spring, at Michaelmas before, with the oldest, and rottennest meanure he can get, of which the best is the rotten staddell or bottomes of Hay-stacks, or for want of it the meanure of Horse-stables, sweepings, and scowrings of yards, and barnes, the mud of old ditches, or else good Oxe or Cow meanure, any of which will bring forth abundance of grasse. For abundance of grasse.

Yet thus much I must aduertise the Husbandman, that this meanuring of Pastu e-grounds carries with it diuers imperfections, for though it occasion abundance of grasse to grow, yet the Medow or Hay which comes thereof, is so ranke, loggy, and fulsome in taste, that a beast taketh no joy to eate thereof, more then to hold very life, and soule together. Also the grasse thus meanured which you intend to grase or eate with you Cattell, is by meanes of the meanure so loose at the root, that Cattell as they bite plucke up both the grasse, root, and all, which being of strong, and ranke sent in the mouth of a beast, maketh him loath, and cast it out againe, and so not strive to eate to be fat, but only to maintaine life. The imperfection of meanure.

Now if your spring be slow, and late in the yeere before your grasse will appeare above ground, it is meet then that you enclose your ground, and not only maintaine the fences with high, and thicke Quick-sets, but also with tall Timber-Trees, whose shade, and strength may defend many cold blasts from the earth To helpe a slow Spring.

and adde unto it a more naturall warmneſſe than it had before, for it is only the coldneſſe of the ſoyle which makes the graſſe long before it grow. Alſo in this caſe it is meete that you ſay (as the Husbandman tearmes it) all ſuch Paſture as you intend to graſe at the ſpring following, in *November* before, and ſo not being bitten from that time till *Aprill* following, no doubt but your ſpring will be both good, and forward. There be others which helpe their ſlow ſpringing grounds by ſtocking them in the latter end of the yeere with great abundance of Sheepe, who although they bite neere to the ground, and leave little graſſe behinde them, yet they ſo tread, and meanure it with their hot meanure, that it will ſpring after it commeth to reſt, much more early, and faſter than it was wont. So that to conclude in a word, to make a barren ground ſpring eately, is to keepe it warme, let it have long reſt, and meanure it well with Sheepe.

To helpe Knot-graſſe, and Speare-graſſe.

If your ground bee troubled with Knot-graſſe or Speare-graſſe, it is a ſigne of too much cold moyſture in the Earth, and in this caſe you ſhall with a great common Plough, made for ſuch a purpoſe, turne up great furrowes thorow your ground, and make them ſo deſcend, and fall one into another, that not only the moyſture bred in the Earth, but that which falls upon the Earth, may have a ſwift paſſage from the ſame, and ſo your ſoyle being drayned, and kept dry, all thoſe weedy kinds of graſſe will ſoone periſh.

To helpe Sun-burning.

If your ground be ſubject to the ſcorching or burning of the Sunne, then you ſhall underſtand that it is directly contrary to the laſt ſoyle we ſpake of: for as that by too much moyſture is made barren by cold, ſo this by too much want of moyſture is made barraine with heate: wherefore the Husbandman ſhall in this caſe draw all his draynes, to bring moyſture into his ground, which ſometimes watring, and ſometimes over-flowing the ſame, will in the end bring it

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to a reasonable fertility, for it is a rule, that where there may be overflowes, there can seldome be any hurt by Sunne-burning, unlesse that such soyles be upon Lime-stome ground, or neere unto other quarries of hard stone, which lying neere unto the upper swarth of the grasse, doth so burne the roote, that the upper branches cannot prosper. In this case the bringing in of water doth rather hurt then good, wherefore your best course is partly by your owne industry, and partly by the labours of others, who are traded in such commodities, to let forth your ground to Stone-diggers or Lime-makers, who digging the quarries out of the Earth, and then filling up the empty places with rubbish, and other Earth, the soyle will in short space become as fruitfull as any other, for it is only the want of taking roote; or the burning up of the roote, which makes this kinde of Earth barraine.

To helpe quarries of stone.

Now if your ground bring forth Ling, Braken, Gorse, Whinnes, or such like: you shall pare off the upper swarth of the Earth, and lay it in the Sunne to dry, in the height or heate of Summer, and being thorowly dried, you shall lay them in round hollow heapes one sod over another, then putting fire unto them, burne them into ashes, which done, spread the ashes, like a meanure, over all the ground, and you shall see those weeds will no more spring or grow in that ground.

To helpe Ling, Braken, &c.

If your ground be morish or full of quicke myers, you shall then by small draynes or trenches draw away the water, and turne it into some lower ditch or current, and so bringing the ground to a stability or firmenesse, there is no doubt but fruitfulnesse, will presently follow after.

To helpe morishnesse or quicke-myers.

Lastly, if your ground be mossie, and bring forth in stead of grasse only a soft fussie, and unwholsome mosse, your only best way to cure the fault, is in the Winter time to tread it much with the feete of Cattell, as by ma-

To helpe mossinesse.

king of Hay-ſtacks in divers parts of ſuch ground, and ſo fodring your Cattell about the ſame, and ſo yeerely altering the places of your Stacks or Reeks to goe over all your ground, and without doubt the treding of the ground will kill the moſſe, and the meanuring of the Cattell, and the expence of Hay-ſeeds upon the ground, will ſoone bring the Earth to much fruitfulneſſe, and goodneſſe.

The generall uſe of barraine grounds.

Now for the generall uſe of theſe barraine grounds, it is to be underſtood, that albe by the meanes before ſhewed, they may be helpt or bettered, yet they are but only for breede or encreaſe of Cattell. Whether the grounds be ſeverall, and encloſed, or univerſall, and common whether they be Woods, Parks, or Paſtures, or Heaths, Mores, Downes, or other wild, and unlimitted places, and theſe grounds ſhall be devided into three parts, the firſt, and moſt fruitfulleſt lying loweſt, lying neereſt to the River or ſome running ſtreame, you ſhall preſerve for Meddow, and not ſuffer any beaſt to bite upon the ſame from *Candlemaſſe*, untill the Hay be taken from the ground. The ſecond part, you ſhall graſe or eate from *Candlemaſſe* till *Lammas*, which would bee that which lieth moſt plaine, and bleake, and moſt ſubject to all weathers. And the third part, which is the warmeſt, and ſafeſt, you ſhall graſe from all *Hollantide* till *Candlemaſſe*, and betwixt *Lammas*, and all-*Hollantide* you ſhall eate up your eddiſh or after crop of your Meddows.

What Cattell are to be bred.

Now whereas I ſpeake generally, that theſe barraine grounds are for the breede of Cattell, yet you ſhall underſtand me particularly, as namely, what Cattell for what ſoyle, for every barraine Earth will not bring forth Cattell alike, as ſome will beare a faire Cow or Oxe, yet but a little Horſe: and ſome will bring forth a very goodly Horſe, yet but a very little horned beaſt, therefore you ſhall obſerve that if your ground lye any

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thing low, or be ſubject to much moyſture, and ſo not extreamely barraine, but although the Spring be late, yet after it ſpringeth, it yeildeth a reaſonable bit, this ground is fitteſt to breed Cattell upon, as Cow, Oxe, and ſuch like: but if it lye high, and dry, if it be ſtony or Mountainous, have much reflection of the Sunne: or though it be ſomewhat more barraine than the former Earth, and in the beſt part of the Spring yeilde but a ſhort, yet ſweet bit, this ground is fitteſt to breed a faire, and large Horſe upon: but if it be extreamely barraine cold, and moyſt, ſtony or moſſie, ſo it be repleniſhed with any good ſtore of underwood, than it is fit to breed ſmall hard Nags upon, or Geldings of a meaner ſize, Goats, wild-Swine, or ſuch like. And laſtly, if it be extreame barraine, cold, and dry, and altogether without any kinde of ſhelter, but ſubject to every blaſt whatſoever, this ground is fit only to breede Sheepe upon, as we ſee by daily experience in the ſeverall parts of this Kingdome: ſo that to conclude, you ſhall beare in your memory, that where you breed your beſt, would be reaſonable bit: where you breede your Horſe good ayre, and warmth, and where you breed your Sheepe, there much ſpaciouſneſſe of ground. And thus much briefly for the nature, and uſe of your barraine grounds.

Now to proceede to your fruitfull, and rich grounds, whoſe very encreaſe, and aboundance of graſſe, without any other curious relation ſhewes their fertility, there is little obſervation to be held in the ordring, and diſpoſing of them, for being naturally good of themſelves, there needeth little art to the maintainance of the ſame, only to have an eſpeciall care to the fencing, and ſafe keeping of them, to the due time of eating them with your Cattell, and to obſerue a fit proportion of reſt for them, in which they may grow, and gather head for the maintainance of ſuch beaſts as ſhall feede upon them. And to theſe, as an eſpeciall rule above the reſt, muſt be added a carefull diligence not to over-ſtocke

Of fertill grounds.

or load your ground with more Cattell then it may conveniently beare, for if your ground be never so fruitfull, if it be over-preſt with multitudes of Cattell, it cannot by any meanes yeild you the profit of your expectation, but returne you loſſe, and dammage.

The diviſion of rich ground.

Theſe fruitfull, and rich grounds would be devided into two parts, the one paſtures or grounds for continuall feeding or nouriſhing of Cattell all the yeere, the other meddows, from whence you ſhall gather your Winters proviſion of Hay, for the preſervation of your Cattell, which are eyther for labour or ſale in the Market, and of theſe two parts I will ſpeake ſeverally.

The generall uſe of rich ground.

Yet before I begin to ſpeake largely of them, it is meet you know the generall uſe of theſe rich, and fruitfull grounds, which is indeed the feeding or fatting up of Cattell, eyther for food in your owne houſe, or for ſale in the Market, to the Butcher, Drover, or men of ſuch like place or profeſſion. For indeed to breed much upon theſe rich grounds, is neither profitable to the Husbandman, nor is the beaſts ſo bred, either ſo comely or Market-able, as thoſe bred in the harder ſoyles, as we may note in our experience, if we will ſurvay the breeds of Cattell in *Gloſter*-ſhire, *Somerſet*-ſhire, and *Lincoln*-ſhire, which for the moſt part are bred upon exceeding rich, and fertile ground: yet if we take view of them, we ſhall finde that albe they are tall, and large, yet they are of ſlender ſhape, leane-thighed, crumple-horned, and oft tender, and dry skinned, which is a fault very note-worthy amongſt Graſiers, and indeed are nothing ſo eyely, and Market-able, as thoſe beaſts are which are bred in *Yorke*-ſhire, *Darby*-ſhire, *Lanca*-ſhire, and ſuch like, all which are bred upon hard, and barren grounds, yet have goodly, large, and round bodies, cloſe truſt, thicke, and well coupled together, faire heads, velvet skinnes, and as the Proverbe is, are ſo beautifull in horne, and haire, that

that they are every mans money, in every Market. So that I conclude, that albe upon the rich ground you may breed good Cattell, and it is necessary also so to do for the maintenance of stocke, yet the generall use, and that which is the greatest profit to the English Husbandman, is to grase, and feed the same.

Of Pastures, and ordring them.

Now to proceed to my former purpose, touching that part of rich ground which I call Pasture, because it is only for feeding, you shall first provide that they be very well fenced, according to the nature of the Country, either with ditch, pale, rayle, dead-hedge, or quicke-growth: you shall also see that they be well stored with water, that is sweet, and wholsome, for putrified water breedeth many mortall, and infectious diseases amongst Cattell. These Pastures must ever be your highest ground, and such as lie safest from inundations. Those Pastures which you lay or give rest to from the beginning of November, you may feed at Candlemas following with heilding beasts, or such as are but beginning to feed, but with your fat beasts not till our Ladies day after: those Pastures which you lay or give rest to at Candlemas, you may very well feed at May following: those which you give rest to at May-day, you may feed at Midsummer, for then the spring is swift, and plentifull: those you lay at Midsummer, you may feed at Lammas, and those you lay at Lammas, you may feed in October, and generally all the Winter following: only you shall observe, that those pastures which lye most in danger of water, or any other casualty, be first eaten, least by too long delaying an unseasonable time come, and so you be both prevented of your hope, and profit.

Manner of feeding of Cattell.

In the eating of your Pasture grounds, are many things to be observed, as first for the feeding of your fat Cattell, you must by all meanes be sure that they have full bite, which is to say, length of grasse: for Cattell, whose tongues are the principall gatherers up of

of their food, neither can nor will bite neere unto the ground, except it be extreame hunger which compels them, and then they take little joy in their food. Next you shall oft (as any fit occasion will giue you leave) remove, and shift them into fresh grounds, and not expect that they should eate your grasse downe to the bottome, but only as it were scum, and take the uppermost, and choysest part thereof, and so they will feed both swiftly, and throughly: and for that grasse which they shall leave behind them, you shall eate it up after them with your labouring or worke-cattell, and lastly with your sheepe. It is very good also amongst your fat beasts ever to have a leane horse or two: for your fat beasts taketh delight to feed with them, and sometimes to bite after them, there being as it were a kind of sympathy or liking of each others tasts. After your grasse is fully knit, and hath received his whole strength, which will be at *Midsummer*, then you may suffer your fat beast to eate a little neerer unto the ground till after *Lammas*, because there is an extraordinary sweetnesse therein, springing from the heate of the Sunnes beames only. These few obseruations well kept, there is no doubt but your Cattell will feed well to your contentment, then when you see that they are sufficiently fed, according to the ayme of your purpose, whether it be for the use of your houshold, or the use of the Market, you shall forthwith imploy them accordingly, for it is both the losse of time, and money, not to put them off by sale or otherwise, so soone as they are come to the end of your desire. For these rich grounds will sometimes make two returnes in the yeere, sometimes three, which is a great profit. And I have heard sometimes of foure, but it is very rare, and the Cattell so returned must be very well stricken with flesh before they be put unto feeding, but if your ground will returne leane beasts fat twice through the yeere, it is commodity sufficient.

Now

Now becauſe it is not ſufficient to ſay ſell, or kill your Cattell when they are fat, except you have the art, and skill to know the ſame, you ſhall obſerue theſe few rules following, and they will ſufficiently inſtruct you in the ſame. First, when you ſee your beaſt in the generall ſhape, and compoſure of his body ſhew moſt faire, and beautifull, each member being comely, and each bone covered, in ſuch ſort as a perfect ſhape requireth, as no eye is ſo ſtupid as cannot tell when a beaſt looketh well or ill-favouredly, you ſhall then gueſſe the beaſt to be well fed, eſpecially when you ſee his huckle-bones round, and not ſharpe, his ribs ſmooth not rough, his flanks full, his natch thicke, and his cod round. This when you ſhall perceive, you ſhall handle him, and griping him upon the neathermoſt ribs, if you feele the skin looſe, and the ſubſtance ſoft under your hand, you may be well aſſured that the beaſt is well fed outwardly, that is upon the bones. You ſhall then lay your hand upon his round huckle-bones, and if that feele, under your hand, ſoft, round, and plumpe, you ſhall be aſſured that the beaſt is well fed both outwardly, and inwardly, that is, both in fleſh, and tallow: then you ſhall handle him at the ſetting on of his taile, and if that handle bigge, thicke, full, and ſoft, it is a true ſigne that the beaſt is very well fed outwardly: then handle his natch-bones which are on both ſides the ſeting on of his taile, and if they feele ſoft, and looſe, it is a ſigne that he is well fed, both outwardly, and inwardly. Laſtly, you ſhall handle his cod, and navell, if it be of an Oxe, and the navell only if it be a Cow, and if they handle thicke, round, ſoft, great, and plumpe, it is a moſt aſſured ſigne that the beaſt is very well tallowed within. And thus when any of theſe parts or members ſhall handle in contrary manner, you ſhall judge of the contrary effects. And thus much touching the knowledge of a fat beaſt.

How to know a fat beaſt.

Now for the ſecond part of theſe rich grounds, which

Of meddows, and their ordring.

are Meddows, they ought to be the moſt fruitfulleſt, and richeſt of all other, lying low, and levell, and being now, and then in the Winter ſeaſon waſht with inundations, yet not too too much drencht or waſht with the ſame: for as the moderate overflowing of waters enricheth, and fertiles the ſoyle, ſo the too much ſoking or long reſting of the water rotteth the earth, and bringeth it to barrainneſſe, neyther is it altogether neceſſary, that every Meddow ſhould ly ſo low that it might be overflowed, for there be ſome high grounds which are free from thoſe floods which will beare Meddow in very ſufficient manner, and although the lower Meddows doe abound in the plenty of graſſe, yet the higher grounds ever beareth the ſweeter graſſe, and it is a rule amongſt Huſbandmen, that the low Meddows do fill, but the high Meddows do feede: the low are for the Stable, but the high are for the Cratch, and that which is long will maintaine life, but that which is ſhort will breed Milke.

Preſeruation of Meddows.

The chiefeſt reſpect you ſhall have to your Meddows, is to defend, & preſerue them from Moales, and ſuch like vermine, which roote up the earth, and deſtroy the ſweet, and tender roots of the graſſe. Next, that you ſhall note in what places of the Meddow the water ſtandeth longeſt, and from thence, by ſmall furrows, or draynes, to give it a free paſſage, ſo that the Meddow may as it were cenſe, and be dry in one inſtant. Laſtly you ſhall maintaine the bankes of all ſuch ditches, and other fences bordring about your Meddows in good, and ſufficient manner, both for keeping out of water after your Meddows begin to grow, as alſo for keeping Cattell from eating them in the night or other times, which is a great deprivation, and loſſe of the profit you expect to come from them: for you ſhall underſtand, that if any overflow ſhall come unto your Meddows after *May*, it will leave ſuch a ſandy filthineſſe in the graſſe, that except

cept very moderate ſhowers fall ſwiftly, and ſodainly, to waſh it out againe; the Hay which ſhall be got of that crop, will both be unſavory, and unwholſome, and breed in your Cattell many dangerous, and mortall ſickneſſes.

The beſt times for laying of Meddows to reſt, is, if the Meddow lie high, as in up-land Countries, or if the ſoyle be cold, or the ſpringing thereof ſlow, at *Candlemaſſe*: but if the ground be more warme, temperate, and of ſome more fertility, then you may lay it at our Ladies day in *March*: but if the ground be moſt fruitfull, then if you lay it at *May* day, it will be early enough. Alſo in the laying of your Meddows to reſt, you ſhall conſider the ſtate of the ground, as whether it be eaten neere and bare, and with what Cattell, as Horſe, Oxen, or Sheepe: if it have beene eaten bare with Oxen or Horſe, then you ſhall lay it earlier in the yeere, for it will aske a longer time to grow againe: but if it have beene eaten with Sheepe (although they bite neereſt to the ground) yet you may lay it ſo much later, becauſe the meanure which they beſtow upon ſuch good ground, will quickly haſten on the Spring: but if your Meddows have not beene eaten bare, but have a good deepe fogge upon them ſtill, then you may lay them the lateſt. Alſo in the laying of Meddows, you ſhall conſider whether they be common or private, if they be common Meddows, and that no old cuſtome bind you to the contrary, you ſhall lay them to reſt earely in the yeere, that recovering a forward Spring, you may cut them ſo much the ſooner, and ſo have the better after-crop, and the longer time to eate it: but if your Meddow be private, and at your owne particular diſpoſing, then you ſhall lay it according to your owne neceſſity, and the goodnes of the ſoyle, obſerving ever to give it full time of growth, and not to cut it till the graſſe bee full ripe, for it is better to let it grow a weeke too long (ſo the weather be ſeaſonable for the withering of it) then

When to lay Meddows.

to cut it two days too soone because when it is to earely cut, it not only looseth the strength, and goodnesse, but also the substance, and waight, and in the drying shrinketh, and wasteth to nothing.

When to mow Meddows.

Touching the fittest time to cut or mow your Meddows: If they be laid in a due season, it is held of all the best English Husbandmen generally to be a weeke or a fortnight after *Midsummer* day, as namely about the translation of *Thomas*, which is ever the seventeenth day of *July*, and without question it is a very good time for all men to begin that labour, if their grounds be fruitfull, and of earely growth: but in as much as divers grounds are divers in their growth, some being much more hasty than other some: and for as much as some Meddows may as well grow too long as too little a time, as in high land Countries, where the heate, and reflection of the Sunne will burne, and consume away the grasse, if it be not gathered in a due season, I would therefore wish every good Husbandman about a weeke before *Midsummer*, and a weeke after, to view his Meddows well, and if he see them turne browne, if the Cock-heads turne downeward, and stand not upright, if the Bels, and other vessels of seede open, and shed their seeds, if your Honisuckles have lost their Flowers, and the Penigrasse be hard, dry, and withered, then you shall truely understand that your Meddow is ripe, and ready to be mowne, and the longer it standeth, the more it will loose of the substance, and when any of the contrary signes appeare, as when the Meddow lookes greene, and fresh, the Cock-heads looke upright, the Bels are close, and hard; the Honisuckles flowring, and purple, and the Penigrasse soft, and moyst, then is your Meddow not ready to cut, nor will the Hay that is so gotten be other then soft, fuzzie, and most unwholsome, no beast taking delight to eate of the same.

The inclination of the weather.

Now to these considerations, you shall adde a careful

obseruation

observation of the state, and inclination of the weather, and if you finde that the weather is disposed to much wet or incertainty, then you shall forbeare to mow, because that moysture will still maintaine, and hold the grasse in his perfect strength so long as it groweth: but if it be once cut downe, then the wet will soone rot, and spoile it: but if you finde the weather enclined to drought, and faireneſſe, then you shall with all speede cut downe your Hay, for one loade got, and brought into the barne without raine, is worth two that hath beene washt, though but with the smalleſt shower. There be some Husbandmen that in the mowing of their Meddows, will observe the state of the Moone, and other planetary conjectures, but they are fitter for those which seeke curiosity more then profit, for mine owne part I would wish every good Husband but to know truly when his crop is ripe, and then to gather it in the most constant, and faireſt seasons, which the rules already set downe will most amply shew him.

The manner how to mow Meddows.

Now for the manner of mowing your Meddows, although the generall act resteth in the hands of the mower, and that it is hard, and impossible, in words, to expresse the art of the action, nor is it needfull that every Husbandman be a mower, yet for those rules which the English Husbandman should know, and observe, I will in no sort omit them. You shall then know that in the mowing of your medows you shall mow them smooth, plaine, and levell, and as the Husbandman tearmes it, with such an even board, that a man may no more but discerne the going in, and comming forth of the Sythe: and this shall be done so close, and neere unto the ground, as is possible for the worke-man to get, especially if it bee in publique, and common Meddows, becauſe the swap, and first crop is all the maine profit you can challenge your owne: nay, you shall doe it also in your owne private, and severall Med-

dows: for although an ignorant custome hath drawne some of our Husbandmen, to say, and beleeve that there is no losse in the sleight, and insufficient mowing of private Meddows, because say they, what I loose in the Barne, my Cattell finds on the ground, yet they are much deceived in that opinion, for what they so leave on, the ground halfe cut halfe uncut, is no good food, neither pleasant nor savoury, but dry, hard, and bitter, and indeed no better then sower fogge, which may fill, but cannot nourish, and who then will be so simple, as not to preferre sweet Hay before such unsavoury grasse? therefore be carefull to mow your grasse even, and close by the ground, for it will make the fresh grasse spring up with more ease, and be much pleasanter in taste.

How to make Hay.

Next after the mowing of your Meddows, followeth the making of your Hay, which is a labour that must be followed with great care, and diligence, for it is an old saying, that dearth beginneth at the Hay-barne doore, and he that is negligent in that, can hardly be good husband in any thing else, then to shew you how you shall make your Hay, you shall first understand that no one particular forme can stand for a generall rule, because Hay must be made according to the nature of the grasse, and the soyle where it groweth, some being apt to wither, and make soone, as that grasse which is finest, and hath in it least weeds, others will be long in making, as that which is full of thicke, strong, and sower grasse, many weeds, bunnes, and such like hard stalkes, which are not easily dryed, therefore it is the part of every good Husbandman, eyther by his eye, and knowledge to judge of the nature of his grasse, or else to follow the customs of the Country, and soyle wherein he liveth, but the first Knowledge, is the better Science. But to proceed to my purpose, I will in the natures of two sorts of grasse, the one fine, and the other course shew you the generall making of all sorts of Hay.

First,

First, then for the making of your fine rich grasse into Hay, if it grow in great abundance, thicke, and close, and so lieth in the swath, you shall have one with a Pitch-forke to follow the Mowers, and to spread, and throw the grasse thin abroad, that the ayre, and Sun-beames may passe thorow it: and this is called in most Countries tedding of Hay. The next day, after the Sunne hath taken the dew from the ground, you shall turne that which the day before you tedded, and then if you have any more new mowen, you shall ted it also. The next day following, as before, when the dew is from the earth, you shall turne your Hay againe, and so letting it lie till the Sunne be at his height, begin to stir it againe, at which time if you finde it reasonably well withered, you shall then draw it into windrows, that is, you shall marke which way the wind standeth, and the same way that it bloweth, the same way with Forks, and Rakes one after another, gather in the Hay into long, great, thicke rows: then you shall make those windrows into large Cockes, of which the biggest is ever the best, for they will defend themselues from raine, if happily any shall fall, whereas the little small Cocke lying light together, taketh in the raine like a spunge, and so makes the Hay a great deale worse then otherwise it would be; when your hay is thus set in safe Cocke, you shall let it rest a day or two, that it may take a little sweat therein, which will make the Hay wondrous pleasant, and sweet, then when the Sunne is got up to a pretty height, you shall open those Cocks, and after the Sunne, and wind hath passed thorow them, you may if the grasse be cleane, and fine of it selfe, without ranke grasse, loade it, and carry it eyther into the Barne, or such other place, as you have appoynted for the receit thereof: but if it have any ranke grasse, which you see unwithered amongst it, then you shall make it up againe into safe cocks, and so let it rest a day or two more before you lead it away. And thus much for the making up of fine Hay. To make fine Hay.

Now

To make course Hay,

Now for the making of course grasse into Hay, which you must suppose to be grasse growing, in cold, moyst, woody, and barraine grounds, full of weedy, rough, and stumpy hearbage, long in growing, late ere it can be gathered, and therefore deprived of much of the Sunnes strength, to sweeten, and wither it. This grasse as soone as it hath beene mowen, and tedded, as beforesaid: the next day you shall make it into little grasse cocks, as big as little Moale-hils, and so having laine a day or better, then breake them open, and let them receive the Sunne, and wind, for they will heate, and sweat a little in the grasse, which makes it Hay the sooner, and better: then after the Sunne hath spent all his power upon it, you shall make it up into little cocks againe putting two of the first cocks into one, then having so layne another day, breake them open againe, and give them the Sunne: then make them up againe, and put three or foure of those cocks into one, and so let them lie another day, then breake them open as before, if the Sunne shine faire, and at even make them up againe, putting three or foure of those cocks into one, and so every morning after the Sunne is up breake them open, and at evening make them up againe, till you find that the Hay is sufficiently well dryed, and sweateth no more in the cock: but in the morning when you breake it open it is dry, without stemme, smoake, or vapour arising from it, which both your hand, and eye may perceive in the first stirring or moving, and then you may at your pleasure lead it home, and house or stacke it as you shall have occasion.

Vse of Hay for Cattell to breed or labour with,

Now for the use of Hay, it is two-fold, that is, neither for the maintenance of breeding Cattell, or Cattell for labour, or else for the feeding of Cattell for the Market, or for slaughter: for the maintainance of breding Cattell, or the Cattell which are employed for the Plough or other labours, whether it be draught or travell, you shall make choyse of the sweet, and well-dryed Hay,

well

which is of freſh, and greene colour, well withered, ſound, and perfect Hay, though it be long, loggy, and not exceeding much ſweet, it matters not for being well Inned, and dryed, it will ſerue ſufficiently for thoſe purpoſes: and with this Hay to mingle ſometimes Wheate-ſtraw, Rye-ſtraw, Barly, or Oate-ſtraw will not be amiſſe for heilding, or breed, Cattell, but for worke beaſts, except neceſſity conſtraine, let them have Hay ſimply of it ſelfe, during the buſie time of their worke, but when they reſt, you may uſe your diſcretion. For the time of giving Hay or foddring to ſuch Cattell as are in the houſe, the beſt is in the morning before they goe to labour, in the evening when they come from labour, preſently after then drinke, and at night when you goe to bed. But for thoſe Cattell which goe abroad, as Sheepe, heilding beaſts, and ſuch like, to fodder them morning, and evening, is out, and out fully ſufficient.

Now for the uſe of Hay for fat Cattell, you ſhall make choyſe of the fruitfulleſt, ſweteſt, fineſt, and ſhorteſt Hay you have, being full of flowers, pleaſant, and odoriferous to ſmell on: and although this Hay be mixt with ſome roughnes, yet it is not the worſe, for though your fat beaſt make thereof great orts yet is the loſſe not great, for thoſe orts may be given to other heilding, and hungry Cattell, which will eate them with great eagerneſſe. This Hay would in the firſt gathering not be withered too ſoone but ſo ſtackt-up with a little harty greenneſſe that it may a little mow-burne, and alter the colour to a reddiſh brownnes, but by no meanes ſo moyſt that it may mould, rotte, or putrifie, for that is fulſome, and vild, but only alter the colour, and thereby make the ſmell ſweeter, and ſtronger. This Hay will entice a beaſt to eate, and will ſtrengthen, and inable his ſtomacke, and withall will breed in him ſuch a drought or thirſt, that hardly any water will

quench him, and the Grazier takes it ever for an infallible signe, that when his beast drinkes much hee feeds fast, and his tallow wonderfully increaseth. For the ordinary times of foddring your fat Cattell, if they be in the stall, and as we say, tyed up by the head, the best is in the morning before, and after water, at noone; in the evening before, and after water, and late in the night, when you goe to bed, but if they feede abroad, and take the benefit of Fogge, and after-grasse, then to fodder them Morning, Evening and high noone is fully sufficient.

Here I could speake of Pease-feeding of Sheep, Swine, and other Cattell, eyther at the Trough, Reeke, Stacke, or such like, the severall manner of cratches, fashions of stals, and many other necessary rules appertaining to this mystery: but I am against my will confined, and therefore must referre it to some other occasion, being loath to spoyle an excellent discourse, with a tale halfe tould, and imperfectly spoken: And thus much therefore of Meddows, and their severall uses.

Chap. 8.

A new method for the husbandly curing of all manner of Cattels diseases.

The reason for this Chapter.

OF this Theame I have written a whole (or as some will suppose many) Histories, yet doubtlesse nothing too much, the cause is so necessary, and commodious: yet this I must let every Reader understand, that what I have herein formerly done, I did for a generall, and uncontroulable satisfaction to the whole Kingdome, both the learned, and unlearned, and as well to satisfie the nicest, and most curious opinion, as the simple, and playne dealing creature: whence it came that I waded artfully,

artfully, and profoundly into the uttermost secrets of this knowledge, leaving nothing unsearcht, or unset downe, that might any way tend to the satisfaction of any iudiciall Reader, and therefore tooke liberty to make a large progresse, without sparing any paynes, to make my worke absolutely most perfect. But now, having only to doe with our honest playne English Husbandman, who eyther cannot much read, or else hath little leasure to read, at most but a little memory to bestow upon his readings: I have here for his ease both of memory, readings, and other vexations, drawne him such a method for the curing of all the diseases in Cattell, as was never yet found out by any man or Authour whatsoever: and is worthy to be preserued to all posterities for ever, and ever.

To beginne then first with the Horse, which is the Husbandmans principallest creature, you shall understand that he hath, of my knowledge, one hundred, and odde diseases, or infirmities, besids other hurts, and blemishes, for all which, I have severally shewed severall cures, as may appeare by the volumes which are much too great for any Husbandman to carry in his braynes, and therefore for his ease I have drawne all those hundred, and odde sicknesses or sorrances, into twelue, and will assure every Husbandman that with these twelue medicines following, he shall perfectly cure all the diseases in a horse, whatsoever. Horses diseases to be cured with twelue medicines.

To proceede then in an orderly manner to the cures: Every Husbandman must know that all diseases in a horse are inward or outward: inward as offending the vitall parts, or outward as troubling the members; to speake then first of inward sickneſſe, I will divide it into two branches, that is, eyther it offends the heart, or the brayne: If it offend the heart, we call them, Feavers, Yellows, *Anticor*, consumption of Lungs, Liver, Splene, Gall or other intrals, Wormes, Fluxes, Belly-bound, and divers other of like nature: For Of inward sickneſſe.

The first medicine,

any or all which, you shall first let your Horse bloud in the neck-veine, and then give him during his sickneſſe, to drinke, eyther in ſweet Wine or ſtrong Ale or Beere, if Wine a pint, if Ale or Beere a quart, two ſpoonfuls of the powder called *Diapente*, made of *Ariſtolochia* root, *Gentiana*, *Myrrhe*, *Eboni*, and *Bachilauri*, of each equall quantity, and let it be well brewed together, and doe thus every Morning faſting, and let the Horſe faſt two houres after it.

The ſecond medicine,

If it offend the brayne we call them *Appoplexies*, *Palſie*, *Staggers*, *Colds*, *Glanders*, *Coughs*, mourning of the *Chyne*, *Migrims*, *Dizineſſe*, and a world of ſuch like: and the cure is to take *Aſſafeteda*, and diſſoluing it in *Vinegar* dip hurds therein, and ſtop it hard into his eares for two mornings together, after you have taken from him great ſtore of blood at his neck-veine, and then give him to drinke, during his ſickneſſe, every morning a quart of *Milke*, wherein the white, and rough cankerous moſſe of an old Oake pale hath beene ſodden till the *Milke* grow thicke, then ſtrayned, and ſo given luke warme, and if you finde that no heavineſſe or dizzineſſe appeare in his head, then you may forbeare the blood-letting, and the *Aſſafeteda*, but not otherwiſe, in any caſe; and thus aſſuredly theſe two medicines already declared will cure all the inward diſeaſes in a Horſe, whatſoever.

Of outward diſeaſes,

Now for outward diſeaſes, they are eyther naturall or accidentall: If they be naturall, they eyther grow from the generation, or breed, from whence a Horſe is deſcended, or elſe from corruption of foode, or other unwholſome keeping. If they grow from the breed and generation of the Horſe, we call them the *Vives*, *Wens*, *Knots*, or ſwellings about the *throat*: and for the cure thereof, take a pennyworth of *Pepper*, beaten into powder; a ſpoonefull of *Swines-greaſe*, the juyce of one handfull of *Rew*, two ſpoonefuls of *Vinegar*, and mixe them together, and put this equally into both

The third medicine,

the

the Horses eares, and so tie them up, and shake the eares, that the medicine may sinke downe, and take good store of blood from the Horses necke-veine, and temple-veines, and use this medicine two or three mornings together.

If they proceed from corruption of food, or any other unwholsome keeping which corrupteth the blood, then we call them *Impostumations*, *Byles*, *Blotches*, *Fistulaes*, *Polemill*, and such like: and the cure is, to take the loame of an old mudde wall, strawes, and all, but let there be no Lime amongst it, and boyle this loame with strong *Vinegar*, till it be like a Pultus, and as hot as the Horse can abide it, apply it to the sore place, and it will not only draw it to a head, and breake it, but also draw it, search it, and heale it. The fourth medicine.

There be also other diseases which proceed from naughty food, and the corruption of blood, and we call them *Farcies*, *Scabs*, *Mangy*, *Scratches*, *Paynes*, *Mallanders*, *Sellanders*, and all of such like nature; and the cure is first to slit the hard knots, or rubbe off the scurfe, and make the sore place raw: then take yellow *Arsnicke* beaten to powder, and mixe it well with fresh grease, and then therewith annoynt the sore places all over, which done, tie up the Horses head, so as he may not knappe or bite himselfe, and so let him stand an houre or two; then take strong old Pisse warmd, and therewith bath, and wash the Horse all over, and so put him to his meate: and in this manner dresse the Horse or beast three or foure mornings, and it will be sufficient; only you must not fayle to take from him good store of blood at his neck-veine. The fift medicine.

Now if his disease proceed from accidentall causes, as from *Wounds*, *Bruses*, *Straynes*, *Galles*, hurts in the *eyes*, *excretions*, or broken *Bones*, then you shall to every one of these take these severall medicines which

The sixt medicine.

follow; as first, if they be wounds, in what sort soever taken or received, you shall take *Turpentine*, *Waxe*, and *Hogs-grease*, of each a like quantity, and melting them together into a salue, dresse the wound therewith, and it will heale it, how great or little soever.

The seventh medicine,

If they be bruises, whether gotten by stroake, naughty Saddles, or other rushes, from whence proceedeth many times old putrefied, and most rankorous vlcers, you shall first if the tumor be onely swelled, and not broken, apply vnto it the fourth medicine of *Loame*, and *Vinegar*, but if it be an open old rankorous vlcer, you shall take *Hogs-grease*, *Turpentine*, *Wax*, and *Verdigrease*, of each a like quantity, and being well mixt, and incorporated together, dresse the sore therewith, till it be whole, for this medicine will abate, and keepe downe any spungy or naughty dead flesh which arises, and keepes the sore from healing, and may therefore alwaies be vsed in such like cases, whether the sore be new or old.

The eight medicine,

If they be straynes eyther of joynts or sinewes, in what part or member soever it be, old or new, take strong *Vinegar*, *Patch-grease*, and *Wheat-bran*, and boyle them together till they be thicke like a Pultus, and then apply it very hot to the strayne, morning, and evening, and it is a most certaine cure, and will keepe the member from growing foule, knotted, or gourded, and will also take away all swellings or paynes of the limbs whatsoever.

The ninth medicine,

If they be Galles, of what kind or nature soever, whether on the backe, limbs, or any other outward part of ther body, you shall take first fresh Butter scalding hot, and with it first bath, and wash the sore, then take thicke Creame, and mixing it with the Soot of a Chimney till it be thicke like a salue, with the same annoynt the sore place morning, and evening, and it will cure it without any feare of dead flesh: if you doe strow vpon the sore the powder of Rossen it will be good also.

If

If they be any hurts in the eyes, as strokes, inflamations, Pin-web, Canker, or any other mischiefe whatsoever, you shall then take true ground-*Ivie*, which otherwise is called of some *Ale-hoofe*, and beating a good handfull thereof in a morter, with a spoonefull or two of white *Rose-water*, or the water of *Eye-bright*, then straine it thorow a cleane wet cloath, and with that water dresse the sore eye morning, and evening: or if you can conveniently three or foure times a day, for the oftner is the better, and it will without all fayle cure any sore eye in the world whatsoever, eyther of man or beast, or any other creature. The tenth medicine.

If they be excretion of bones, as Splents, Spavens, Curbs, Ringbones, or such like, in what part or member soever they be you shall then take white *Arsnicke*, beaten or ground to fine powder, and making a little slit upon the head of the excretion, the length of a Barley corne, or very little more, yet in any waies downe deepe to the excreetion, and then with the poynt of your knife put the *Arsnicke* upon the excretion, and so let the horse stand with his head tied up for two houres at least, for in that time the greatest anguish will be gone, and then put him unto his meat, and in three or foure daies after the excretion will fall away of it selfe; and then with a little sweet Butter you may cure the sore, which will not be great. The eleventh medicine.

If they be broken bones, or bones out of joynt, you shall after you have placed them in their due place, first annoynt them with the Oyle of *Mallows*, or for want of it with warme *Patch-grease*, and then clape about them a plaster made of *Pitch*, *Rossen*, and *Mastick*, and so with soft, and flat splents, so splent the member as it may not move, and so let it rest nine daies ere you dresse it againe, and in any case so sling the Horse or beast that he may not during that time, put his member to the ground, which a little diligence, and playne will easily doe. The twelfth medicine.

If

Diſeaſes in the feet,

If your Horſe have any infirmity in his hooves as *Quitter-bone, over-reach, pricke, crowne-ſcabbe, rotten frush* or any ſuch ulcerous diſeaſe, you ſhall firſt lay it open, and then heale it with the ſeventh medicine. But if it be foundring, fretteſhing, or ſuch like, then you ſhall firſt pare all his hooves cleane over, ſo thin that you may diſcerne the quicke all over, then let him blood at the toes, and take great ſtore of blood from him, but in any caſe cut not the veine in ſunder: then take the ſixt medicine, and being boyling hot (after hollow ſhoes have beene tackt on his feet) with Flaxe hurds dipt therein, ſtop all the ſoales of his feet up hard, and thus doe twice in ſixe daies, and it will bring his feet to their full perfection againe, without any great loſſe or trouble.

Diſeaſes in the privy parts or for ſtifl. g.

As for the common infirmities in a Horſes privy parts, which are *ſwellings, inflamations, incording*, and ſuch like, you ſhall but only ſwim your Horſe in cold water morning, and evening, and it is a preſent helpe, both for them, or the ſtifling of a Horſe in his hinder joynts: Thus you ſee theſe twelue medicines will ſufficiently cure all the diſeaſes in a Horſe or Beaſt whatſoever, which who ſo will not carry in his memory, he is worthy now, and then to be punniſht for his ſloath and ſometimes to ſuffer loſſe, which may make him more induſtrious to ſtudy for his owne good, and profit. And thus much for the cure of diſeaſes.

FINIS.

THE PLEASVRES OF PRINCES, OR, Good mens Recreations.

CONTAYNING,

A Diſcourſe of the generall art of Fiſhing, with the Angle, or otherwiſe: and of all the hidden ſecrets belonging thereunto.

TOGETHER

With the Choyce, Ordring, Breeding, and Dyetting of the fighting Cock. Being a worke never in that nature handled by any former *Author*.

LONDON,
Printed by IOHN NORTON, for HENRY TAVNTON, in St. *Dunſtons* Church-yard, in *Fleete-ſtreet*. 1635.

THE PLEASVRES OF PRACTICE, OR, Good mens Recreations.

CONTAINING,

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THE PLEASVRES of PRINCES.

CHAP. 1.

Of Angling, the Vertue, Vse, and Antiquity.

SInce Pleasure is a rapture, or power in this last age, stolne into the hearts of men, and there lodged up with such a carefull guard, and attendance, that nothing is more supreame: or ruleth with greater strength in their affections, and since all are now become the sonnes of Pleasure, and every good is measured by the delight it produceth: what worke unto man can be more thankefull then the discourse of that pleasure which is most comely, most honest, and giveth the most liberty to Divine meditation, and that without all question is the Art of Angling,

ling, which having ever beene most hurtlesly necessary, hath beene the sport or recreation of GODS Saints, of most holy Fathers, and of many worthy, and reverend Devines, both dead, and at this time breathing.

The use of Angling, and the vertue.

For the use thereof (in its owne true, and unabused nature) carrieth in it neyther covetousnesse, deceipt, nor anger, the three maine spirits which (ever in some ill measure) ruleth in all other pastimes; neyther are they alone predominant without the attendance of their severall handmaids, as Theft, Blasphemy or Bloudshed: for in Dice-play, Cards, Bowles, or any sport where money is the goale to which mens minds are directed, what can mans avarice there be accounted other then a familiar robbery, each seeking by deceipt to couzen, and spoyle other of that blisse of meanes which God had bestowed to support them, and their families? And as in every contention there must be a better-hood or super-excelling, so in this, when the weaker deceipt is deprived his expectation, how doth it then fall into curses, oathes, and furies, such as would make Vertue tremble with the imagination? But in this Art of Angling there is no such evill, no such sinnefull violence, for the greatest thing it coveteth is, for much labour a little Fish, hardly so much as will suffice Nature in a reasonable stomacke: for the Angler must intice, not command his reward, and that which is worthy millions to his contentment, another may buy for a groate in the Market. His deceipt worketh not upon men but upon those Creatures whom it is lawfull to beguile for our honest recreations or needefull uses, and for all rage, and fury it must be so great a stranger to this civill pastime, that if it come but within view or speculation thereof, it is no more to be esteemed a Pleasure, for every proper good thereof in the very instant faileth, shewing unto all men that will undergoe any delight therein that it was first invented, taught, and shall for ever be maintained

by

by *Patience* only. And yet I may not say only *Patience*, for her other three Sisters have likewise a commanding power in this exercise, for *Iustice* directeth, and appointeth out those places where men may with liberty use their sport, and neyther doe iniury to their neighbours, nor incure the censure of incivility. *Temperance* layeth downe the measure of the action, and moderateth desire in such good proportion that no excesse is found in the overflow of their affections. Lastly, *Fortitude* inableth the minde to undergoe the travell, and exchange of weathers with a healthfull ease, and not to dispaire with a little, expence of time, but to presever with a constant imagination in the end to obtaine both pleasure, and satisfaction.

Now for the Antiquity thereof (for all pleasures, like Gentry, are held to be most excellent which is most auncient) it is by some writers sayd to be found out by *Ducalion*, and *Pialia* his Wife, after the generall floud: others writ it was the invention of *Saturne*, after the peace concluded betwixt him, and his brother *Tytan*: and others, that it came from *Bellus* the son of *Nimrod*, who first invented all holy, and vertuous recreations: and all these though they savour of fiction, yet they differ not from truth, for it is most certaine that both *Ducallion*, *Staurne*, and *Bellus*, are taken for figures of *Noah*; and his family, and the invention of the Art of Angling is truely sayd to come from the sonnes of *Seth*, of which *Noah* was most principall, Thus you see it is good, as having no coherence with evill, worthy of use: in as much as it is mixt with a delightfull profit: and most auncient, as being the recreation of the first Patriarkes, wherefore now I will proceede to the Art it selfe, and the meanes to attaine it. The antiquity of Angling.

Chap. 2.

Of the Angle-rod, Lines, Corks, Hookes, and other Tooles for Angling.

INasmuch as the first ground-worke or substance of this *Art of Angling* consisteth in the implements belonging thereunto, and that except a man be possest of them which are most exact, nimble, or necessary for the same, his labour is vaine, and to little or no purpose imployed, and for as much as the *Angle-rod* is the greatest, principallest, and sole director of all other Tools belonging thereunto, I thinke it not amisse to begin with the choyse, and order thereof, according to the opinions of the best noted *Anglers*, which eyther have beene in times past or are at this day living.

Of the *Angle-rod.*

For the choyce then of your *Angle-rod*, you shall understand that some Anglers are of opinion, that the best should be composed of two pieces, a maine body, and a small plyant top. The maine body would be of a fine growne ground *Witchen*, or a ground-*Elme*, of at least nine or ten foot in length, straight, smooth, without knots, and not much differing, at eyther end in one substance or thickneſse. It would be gathered at the fall of the Leafe, neere, or about *All-hollontide*, and layd up in some dry place, where it may lie straight, and of it selfe season; for to beake them in the fire (as many doe) when they are greene, is not so good, but after they be well dryed, and seasoned of themselues then to beake them in the fire, and set them so straight, and even that an arrow may not surpasse them, is excellent: then you may take of the upper rinde, and what with the smoake, and their owne age, their colour will be so darke that they will give no reflect into the water (which is a principall observation.) Your rodde

rodde being made thus ſtraight, and ſeaſoned, you ſhall at the upper end thereof, with an Augure or a hot Iron, but a hot Iron is the better, burne a hole, about three inches deepe, and of a fingers widneſſe: then on the outſide of the Rod, from the toppe of the hole to the bottome, you ſhall warpe it about eyther with ſtrong double twiſted threed well waxed or pitcht, or with ſhoomakers threed many times doubled, and well waxed with ſhoomakers waxe, and the laſt end faſtned under the laſt foulds, ſo cloſe, and ſure that it may by no meanes looſſe: for this will keepe the Rod from cleaving or breaking in that place where the hollowneſſe was made.

Of the top of the Angle-rod.

The ſtocke being thus made, you ſhall into the hole fixe the toppe, which would be a very ſmall ground-Haſſell, growing from the earth upward, very ſmooth, and ſtraight, which would be cut at the latter end of the yeere, and lye in ſeaſon all the winter, the upper rinde being by no meanes taken off, neyther the Rodde put into the fire at all, but only ſeaſoned in a drye place, where it may lye ſtraight, and have both winde, and ſome ayre of the fire to come to it. This toppe muſt be plyant, and bending, yet of ſuch a ſufficient ſtrength that it will not breake with any reaſonable jerke, but as it is any way bowed ſo to returne againe to the former ſtraightneſſe. This top-wand would be of a yarde, and a halfe, or an elle at leaſt in length, and at the ſmalleſt end thereof would be faſtned with a warp of hayre, a ſtrong loope of hayre, about an inch long, to which you may at pleaſure faſten your fiſhing line: and the bigger end of the top muſt be thruſt into the ſocket of the ſtocke, and made ſo faſt that it may not looſen nor ſhake out with any ſhaking, or other reaſonable violence. And albe the Witchen or ground-Elme are accounted the beſt to frame theſe maine ſtocks of, yet I have ſeene very good ſtockes made both of *Sallow*, *Beech*, or *Poplar*: for the lighter your Rod

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is (so it be strong) it is so much the better, and more for the ease of him that useth it.

The *Angle-rod* of one piece.

There be other approved good Anglers which allow only that Rod which is composed all of one entire piece, and thinke them stronger, nimbler, and lesse casuall, and these Rods they would have chosen of an excellent straight, and wel-growne ground-*Hasell*, being from the bottome to the top finely rush-growne, the upper end thereof being small, plyant, and bending. This Rod would be gathered at the fall of the Leafe, when the leaves are some fallen, and some sticking: as soone as you have cut them up, you shall cut away the leaves, and small sprigs, yet not so neere that you hurt the Barke (for that by no meanes must be stird, as well for the strength of the Rod, as for the colour, which being darke will not so soone catch the eye of the Fish, and offend then.) Then bringing your rods home, you shall lay them upon a levell flore, and pressing them downe with waights, to keepe them from warping, let them lie, and season all the Winter: then in the Spring-time take them up, for your purpose, which is only to make the knots smooth, and to fixe your loope of hayre to the upper end. Now of these rods the longest is the best, so it be straight, and well growne, for most commonly they are so short that they will serue to fish with but in little narrow Brooks, or else in a Boate in great waters.

The *Angle-rod* of many pieces.

There be other Anglers, and many of the best, and approvedst judgments, which allow the *Angle-rod* of many pieces: as those which are made of Cane, each piece exceeding another one degree, in such even proportion that being fixed, and thrust on within another they will shew as one even, and most straight rush-growne body without any crookednesse or other outward evill favouredneſse: these pieces would not be above foure foot in length a piece, and three such pieces, which make twelue foot are sufficient for the stocke,

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of the Rod, beſides the top, now for thoſe ends which are the ſockets, into which you fixe the other Canes, you ſhall hoope them about with fine plates of Braſſe, an inch, and an halfe broad, well ſodered, and ſmoothly filed, which will keepe the Cane from cleaving: and for the toppe of this Rod, the round **Whale-bone is** thought the beſt, and ſurely in my conceipt ſo it is, both for this or any other rod whatſoever, for it is tough, ſtrong, and moſt plyant: theſe Rods moſt commonly are made to have the ſmall Canes thruſt downe into the wide Canes, ſo that a man may walke with them as with a ſtaffe, and when he pleaſeth to draw them forth, and uſe them as occaſion ſhall be offered: the only exception which is taken at theſe kind of Rods, is the bright colour of the Cane, which reflecting into the water, oft times ſcareth the Fiſh, and makes them afrayd to bite. But if you fiſh in deepe, and thicke waters, there is no ſuch matter, for the ſhadow of the Rod is not diſcerned through the Sunne, only in ſhallow, and cleere Brookes it is a little hindrance, and therefore he which is a maſter in this Art will Vmber, and darken the Rod, by rubbing it over a gentle fire with a little *Capons-greaſe*, and browne of *Spaine* mixt together.

Now for your Lines, you ſhall underſtand that they Of the Lines.
are to be made of the ſtrongeſt, longeſt, and beſt grown Horſe-hayre that can be got, not that which groweth on his maine, nor upon the upper part of or ſetting on of his tayle, but that which groweth from the middle, and inmoſt part of his docke, and ſo extendeth it ſelfe downe to the ground, being the biggeſt, and ſtrongeſt hayres about the Horſe; neither are theſe hayres to be gathered from poore, leane, and diſeaſed Iades of little price or value, but from the fatteſt, ſoundeſt, and proudeſt Horſe you can finde, for the beſt Horſe hath ever the beſt hayre, neyther would your hayres be gathered from Nags, Mares, or Geldings,

but from ſtone Horſes only, of which the blacke hayre is the worſt, the white or gray beſt, and other colours indifferent: thoſe Lines which you make for ſmall Fiſh, as Gudgeon, Witting, or Menow, would be compoſed of three hayres: thoſe which you make for Pearch, or Trout, would bee of five hayres: and thoſe for the Chub or Barbell, would be of ſeven: to thoſe of three hayres you ſhall adde one thred of ſilke: to thoſe of five two threds of ſilke: and to thoſe of ſeven three threds of ſilke: you ſhall twiſt your hayres neyther too hard nor too ſlacke, but even ſo as they may twinde, and couch cloſe one within another, and no more, without eyther ſnarling or gaping one from another: the ends you ſhall faſten together with a Filbers knot, which is your ordinary faſt knot, foulded foure times about, both under, and above, for this will not looſe in the water, but being drawne cloſe together will continue when all other knots will faile, for a hayre being ſmooth, and ſtiffe, will yeild, and goe backe if it be not artificially drawne together: your ordinary Line would be betweene three, and foure fathome in length, yet for as much as there is diverſitie in the length of Rods, in the depth of waters, and in the places of ſtanding to Angle in, it ſhall be good to have lines of divers lengths, and to take thoſe which ſhall be fitteſt for your purpoſe.

The colouring of Lines.

Theſe Lines, though the naturall hayres being white, or gray, be not much offenſive, yet it ſhall not be amiſſe to colour them according to the ſeaſons of the yeere, for ſo they will leaſt feare the Fiſh, and ſooneſt intice them to bite with moſt greedineſſe: and of colours the beſt is the Water-greene, which you ſhall make after this manner: Take a pottell of *Alome*-water, and put thereunto a great handfull of *Marigolds*, and let them boyle well till a yellow skumme riſe upon the water, then take halfe a pound of greene Coperas, and as much *Verdigreaſe*, beaten to fine powder, and put

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it with the hayre into the water, and ſo let it boyle againe a pretty ſpace, and then ſet it by to coole for halfe a day: then take out your hayre, and lay it where it may dry, and you ſhall ſee it of a delicate greene colour, which indeed is the beſt Water-greene that may be. This colour is excellent to Angle with in all cleere waters where the Line lyes plaine, and moſt diſcovered, and will continue from the beginning of the Spring to the beginning of Winter. Now if you will have your Lines of a yellow colour, you ſhall boyle your hayre in *Alome*-water, mixt only with Marygolds, and a handfull of Turmerycke; but if you cannot get Turmerycke, then you ſhall ſtampe ſo much of greene Walnut-leaves, and mixe it with the water, and ſteepe your hayre therein twenty, and foure houres, at leaſt. Lines of this colour are good to Angle with in waters that are cleere, yet full of weeds, ſedge, and ſuch like, for it is not unlike to the ſtalks of theſe weeds, and it will well continue to Angle with all the firſt part of the Winter, as from before *Michaelmas* till after *Chriſtmas*.

If you will have your Lines of a Ruſſet colour, you ſhall take a quart of Alome-water, and as much ſtrong Lye, then put thereto a handfull of ſoote, and as much browne of *Spaine*; and after it hath boyld an houre or two, ſet it by to coole, and when it is cold ſteepe your hayre therein a day, and a night, and then hang it up to drie; theſe coloured Lines are good to Angle with in all deepe waters, whether they be Rivers or ſtanding Pooles, as Ponds, and ſuch like, and are moſt in uſe from *Chriſtmas* till after *Eaſter*. Now if you will have your Lines of a browne or Duskiſh colour, you ſhall take a pound of Vmber, and halfe ſo much Soote, and ſeeth it in a pottle of Ale a good ſpace, then when it is cold ſteepe your hayres therein a day, and a night, and then hang them up to drie, and the colour will bee perfect, yet ever the darker you would have it, the more Vmber put into it: theſe Lines are

excellent to Angle with in waters that are blacke, deepe and muddy, be they eyther running or ſtanding waters, and will continue all ſeaſons of the yeere whatſoever, only in bright waters they are too blacke, and caſt too large a ſhadow. Laſtly, if you would have your Lines of a tawny colour (although in the water it ſheweth almoſt all one with the other darker colours) you ſhall take Lime, and Water, and mixe it together, and ſteepe your hayre therein halfe a day, and then take it forth, and ſteepe it double ſo long time in Tanners ouze, and then hang it up to drye, and the colour will be perfect: theſe Lines are beſt to Angle with in moriſh, and heathy waters, which are of a reddiſh colour, and will ſerue for that purpoſe all ſeaſons of the yeere: if with this colour, or the greene, you mixe a ſiluer thred it will not be amiſſe, and with the other colours a golde thred it is good alſo: and note, that at each end of your Line you make a loope, the one to faſten to the toppe of your Rodde, being the larger, and the other to faſten your hooke Line unto, which would be ſomewhat leſſer.

Of the *corke.* After your Lines are made, you ſhall make your *Corks* in this manner: take of the beſt, and thickeſt *Corke* you can get, and with a fine Razer having pared it ſmooth on the outſide, cut into the faſhion of a long *Katherine* Peere, bigge, and round at the one end, and long, and ſlender at the other, and according to the ſtrength of your Line, ſo make your worke bigger or leſſer, as for a Line of three hayres, a *Corke* of an inch, and a halfe in length, and as much in compaſſe in the thickeſt part is bigge enough: and for a Line of more hayres, a *Corke* of more length, and compaſſe will become it: and indeed to ſpeake truly for as much as it ſerueth, but only for a direction to your eye to know when the Fiſh byteth, and when you ſhall ſtrike, the leſſer your *Corke* is, the better it is, and breedeth leſſe affright in the water, in ſo much that many Anglers will

will fish without any *Corke*, with a bare quill only, but is not so certaine, nor giveth so sure direction as the *Corke* doth. After you have shaped your *Corke*, you shall with a hot Iron boare a hole, long-wise, thorow the middest thereof, and into that hole thrust a quill, and thorow the quill draw your Line, and fasten them both together with a wedge of the hard end of the *Goose*-feather: and note that both your quill, and your wedge be white, for that breedeth least offence on the water, then place the smaller end of your *Corke* downe towards your hooke, and the bigger end towards your rod, that the smaller end, sinking downe with the hooke, the bigger may floate aloft, and beare the quill upward, which when at any time, you see puld downe into the water, then you may safely strike, for it is an assured signe that the Fish hath bitten. There be other Anglers which make their *Corks* in the fashion of a Nun-gigge, small at both ends, and bigge in the middest, and it is not much to bee disliked, only it is a little sooner apt to sinke, and you may thereby strike before the Fish have fully bitten. Others shape their *Corkes* in the fashion of a whirle, or of a little Apple, round, flattish of both sides, and this *Corke* is best to angle for the greatest Fishes, because it being not so apt to sinke, will floate till the hooke be fastned, and that the Fish beginneth to shut away with the bayte, so that a man then striking can seldome or never loose his labour.

Next to your *Corks* is your hooks, and they be of divers shapes, and fashions, some bigge, some little, some betweene both, according to the Fish at which you angle, the best substance whereof to make them, is either old *Spanish* Needles, or else strong Wyer drawne as neere as may be to that hight of temper, which being nealed, and alayd in the fire, you may bend, and bow at your pleasure. Now for the best softning of your Wyre if you make your hooks of old Needles, you shall need

Of Angle-hookes.

but to hold them in the blaze of a candle till they be red hot, and then let them coole of themselues, and they will be soft, and plyant enough, but if you make your hooks of strong Spanish Wyer, you shall roule it round, and then lay it upon burning Char-coales, turning it up, and downe till it be all red hot in every place, then let it gently coole of it selfe, and it will be soft enough. Now for the making of your hooks, I advise you to goe to such as are the best reputed for making of them, and buy of all sorts of hooks from the biggest to the least, that is to say, from that which taketh the *Loach*, to that which taketh the *Salmon*, and let them lie before you for examples; then looke of what sort of hooks you intend to make, and with a fine file, first make the poynt of your hooke, which would neyther be too sharpe, for then it will catch hold of every thing when it should not, nor too blunt, least if fayle to take hold when there is occasion: therefore in that obserue a meane, making it lesse sharpe then a fine needle, and more sharpe then a small pin. When you have made the poynt then with a thin Knife of a very good edge, you shall cut out, and raise up the beard which you shall make greater or lesse, according to the bigneſſe of the hooke, and the strength of the Wyer: for you must by no meanes cut the beard so deepe, that thereby you weaken the hooke, but it must be as strong in that place as any other. When the poynt, and beard is made, you shall with a fine payre of round Plyers turne, and compasse the hooke about making it round, circular-wise, being somewhat more then a semi-circle, and ever obserue that the rounder the compasse or bought commeth in, that so much the better proportioned the hooke is. This done, you shall leave as much as you thinke convenient for the shanke, and then cut it off from the rest of the Wyer: which done, you shall beate the end downe flat, and somewhat broader then the rest, and so polliſh, and smooth

ſmooth it all over, then heating it red hot in a little pan of Char-coales put it ſuddenly into the water, and quench it, which will bring your hooke to full ſtrength, and hardneſſe. Thus you ſee how to make hooks of all ſizes, and ſhapes, whether they be ſingle or double hooks, for, although the quantities alter, yet the ſhapes doe not, and the double hooks which is, the Pike-hooke is no other, but two ſingle hooks, all of one Wyer turned contrary waies: and this double hooke muſt not have the line fixt unto it, but a ſtrong Wyer joynted unto it of three inches long, well wound about, and wraped with a ſmaller Wyer: then to it another Wyer of the ſame length, as if they were two ſeverall linkes joyned together, and then the line fixed to the laſt linke, and therefore are called armed hooks, for they defend the line from ſhearing or cutting in pieces with the teeth of the Pyke.

Now for your ſingle hooks you ſhall thus fixe them to your lines, take a length of your twiſted hayres, containing that number which is fit for the hooke, and having made a ſtrong loope at the one end, lay the other end where is no bough, upon the inſide of your hooke, then with ſtrong red ſilke, eyther ſingle or double according to the bigneſſe of the hooke being well waxed, whip, and warp the hooke round about as thicke, cloſe, and ſtraight as may be, in ſuch ſort as you ſee men whip their bow-ſtrings, and in the ſame manner make the ends of your ſilke faſt: then with a payre of Syzers cut the ſilke, and hayres off cloſe by the hooke, and you may be ſure that they will not looſe one from another with any reaſonable violence. After your hooke is thus faſtned to your line, you ſhall then plumbe your line, which is to fixe certaine pieces of Lead, according to the bigneſſe of your line about it, ſome being in length a quarter of an inch, ſome halfe an inch, ſome bigger, and ſome leſſe, according to the waight of your hooke, and bigneſſe of your Corke, for theſe plummets are but only to

carry

carry downe your hooke, and lay it in the bottome, neyther being so heauy to make the *Corke* sinke, nor so light as not with the smalleſt touch to make the *Corke* dip into the water: you shall understand that your first plumet would be twelue or foureteene inches from the hooke, the reſt not above one inch distance one from another, not being above five or seven at the most, albe some anglers use nine, and some more, as their fancies rules them. There is in plumbing of lines three severall fashions of plumets used, as one long, another, square, and the third in a Diamond forme, but all tending to one end, have but one use, and the long ones are accounted the best, so that they bee neatly set to, and the ends smooth, and close laid downe, so that they tangle not the line by catching hold upon Weeds, or other trash in the bottome of the water.

Of other implements for Anglers.

Thus have you seene the best choyse of Rods, Lines, Corks, and Hooks, and how to fixe, and couple them altogether to doe their severall offices, it now resteth that we speake of other necessary implements, which should accompany the painefull Angler, and they be these; he shall besides these before spoken of, have a large Musket-bullet, through which having fixed a double twisted thred, and thereof made a strong loope, he may at his pleasure hang it upon his hooke, and therewith sound the depth of every water, and so know how to plumbe his lines, and place his Corke in their due places: then he shall have a large ring of lead, fixe inches at least in compasse, and made fast to a small long line, thorow which, thrusting your *Angle-rod*, and let it fall downe into the water by your haire line, it will helpe to unloose your hooke if it fastned eyther upon weeds or other stones in the water. Then he shall have a fine smooth board of some curious wood for show sake, being as big as a trencher, and cut battlement-wise at each end; on which he shall fold his severall lines.

His

His hooks he shall have in a drie close box: he shall have a little badge of red cloth, to carry his wormes in, and mixe with them a little fresh Mould, and *Fenell*; then he shall eyther have a close stopt horne, in which he shall keepe *Maggots*, *Bobbes*, *Palmers*, and such like, or a hollow Cane, in which he may put them, and *Scarrabs*: he shall have a close box for all sorts of live *Flies*, and another for *Needles*, *Silke*, *Thred*, *Waxe*, and loose hayres, then a roule of pitcht thred to mend the *Angle-rod* withall, if it chance to breake, a file, a Knife, a Pouch with many Purses, in which you may place all your implements severally. Lastly, you shall have a little fine wanded Pebbe to hang by your side, in which you shall put the Fish which you catch, and a small round net fastned to a poales end, wherewith you may land a Pike or other great Fish; to have also a little Boat, or Cot, if you Angle in great waters to carry you up, and downe, to the most convenientest places for your pastime, is also right necessary, and fit for an Angler; And thus I have shewed you the substance of the Anglers instruments.

Chap. 3.

Of the Anglers apparrell, and inward quallities.

TOuching the Anglers apparrell (for it is a respect as necessary as any other whatsoever) it would by no meanes be garrish, light coloured, or shining, for whatsoever with a glittering hue reflecteth upon the water, immediately it affrighteth the Fish, and maketh them flie from his presence, no hunger being able to tempt them to bite, when their eye is offended; and of all Creatures there is none more sharpe sighted then Fishes are. Let then your apparrell be plaine, and comely, of

Anglers apparell.

darke colour, as Russet, Tawny, or such like, close to your body, without any new fashioned slashes, or hanging sleeves, waving loose, like sayles, about you, for they are like Blinks which will ever chase your game farre from you: let it for your owne health, and ease sake, be warme, and well lyned, that neyther the coldnesse of the ayre, nor the moystnesse of the water may offend you; keepe your head, and feet dry, for from the offence of them springeth Agues, and worse infirmities.

Anglers vertues.

Now for the inward qualities of the mind, albe some Writers reduce them into twelue heads, which indeed whosoever injoyeth cannot chuse but be very compleat in much perfection, yet I must draw them into many more branches. The first, and most especiall whereof, is, that a skilfull Angler ought to bee a generall Scholler, and seene in all the liberall Sciences, as a *Gramarian*, to know howeyther to Write or discourse of his Art in true tearmes, eyther without affection or rudenesse. He should have sweetnesse of speech, to perswade, and intice other to delight in an exercise so much laudable. He should have strength of arguments, to defend, and maintaine his profession against enuy or slaunder. He should have knowledge in the Sunne, Moone, and Starres, that by their aspects he may guesse the seasonablenesse or unseasonablenesse of the weather, the breeding of stormes, and from what coasts the Winds are ever delivered. He should be a good knower of Countries, and well used to high wayes that by taking the readiest paths to every Lake, Brooke, or River, his journeys may be more certaine, and lesse wearisome. He should have knowledge in proportions of all sorts, whether Circular, square, or Diametricall, that when hee shall bee questioned of his diuernall progresses, he may give a Graphicall discription of the Angles, and Channels of Rivers, how they fall from their heads, and what compasses

they

they fetch in their ſeverall windings. He muſt alſo have the perfect Art of Numbring, that in the ſounding of Lakes, or Rivers, he may know how many foot or inches each ſeverally containeth, and by adding, ſubtracting, or multiplying the ſame, he may yeild the reaſon of every Rivers ſwift or ſlow current. He would not be unskilfull in Muſique, that whenſoever eyther melancholy, heavineſſe of thought, or the perturbations of his owne fancies ſtirreth up ſadneſſe in him, he may remoove the ſame with ſome godly Hymne or Antheme, of which *Dauid* gives him ample examples. He muſt be of a well ſetled, and conſtant beliefe, to injoy the benefit of his expectation, for then to diſpayre it were better never to put in practiſe: and he muſt ever thinke where the waters are pleaſant, and likely, that there the Creator of all things hath ſtored up much of his plenty: and though your ſatisfaction be not as ready as your wiſhes, yet you muſt hope ſtill, that with perſeverance you ſhall reap the fulneſſe of your Harveſt: then he muſt be full of love, both to his pleaſure, and to his neighbour: to his pleaſure, which otherwiſe would be irkeſome, and tedious, and to his neighbour that he neither give offence in any particular, nor be guilty of any generall deſtruction: then he muſt be exceeding patient, and neyther vexe nor excruciate himſelfe with loſſes or miſchances, as in looſing the pray when it is almoſt in the hand, or by breaking his Tooles by ignorance or negligence, but with a pleaſed ſufference amend errours, and thinke miſchances inſtructions to better carefulneſſe. He muſt then be full of humble thoughts, not diſdayning when occaſion commands to kneele, lye downe, or wet his feet or fingers, as oft as there is any advantage given thereby, to the gaining the end of his labour. Then he muſt be ſtrong, and valiant, neyther to be amazed with ſtormes, nor affrighted with Thunder, but to hold them according to their naturall cauſes, and the pleaſure of the higheſt: neyther muſt hee,

like the Foxe which prayeth upon Lambes, imploy all his labour against the ſmaller frye, but like the Lyon that ceazeth Elephants, thinke the greateſt Fiſh which ſwimmeth, a reward little enough for the paines which he endureth. Then muſt he be liberall, and not working only for his owne belly, as if it could never be ſatiſfied: he muſt with much cheerefulneſſe beſtow the fruits of his skill amongſt his honeſt neighbours, who being partners of his gaine, will doubly renowne his tryumph, and that is ever a pleaſing reward to vertue. Then muſt he be prudent, that apprehending the reaſons why the Fiſh will not bite, and all other caſuall impediments which hinder his ſport, and knowing the remedies for the ſame, he may direct his labours to be without troubleſomnes: then he muſt have a moderate contentation of mind, to be ſatiſfied with indifferent things, and not out of an avaricious greedineſſe thinke every thing too little, be it never ſo aboundant: then muſt he be of a thankefull nature, praiſing the Author of all goodneſſe, and ſhewing a large gratefulneſſe for the leaſt ſatiſfaction: then muſt he be of a perfect memory, quicke, and prompt to call into his mind all the needfull things which are any way in his exerciſe to be imployed, leaſt by omiſſion of any, he fruſtrate his hopes, and make his labour effectleſſe. Laſtly, he muſt be of a ſtrong conſtitution of body, able to endure much faſting, and not of a gnawing ſtomacke, obſeruing houres, in which if it be unſatiſfied, it troubleth both the minde, and body, and looſeth that delight which maketh the paſtime only pleaſing.

Cautions. Thus having ſhewed the inward vertues, and qualities which ſhould accompany a perfect Angler, it is meet now to give you certaine Cautions, which being carefully obſerved, you ſhall with more eaſe obtaine the fulneſſe of your deſires. Firſt therefore when you goe to Angle, you ſhall obſerue that all your Tooles, Lines, or Implements be (as the Sea-man ſaith) yare, fit, and ready,

for

for to have them raveld, ill made, or in unreadineſſe, they are great hinderances to your pleaſure. Then looke that your baits be good, ſweet, fine, and agreeing with the ſeaſon: for if they be otherwiſe unproper in any of their natures, they are uſeleſſe, and you had beene better at home then by the River. Then you muſt not Angle in unſeaſonable times, for the Fiſh not being inclined to bite, it is a ſtrange intiſement that can compell them: then you muſt be carefull neyther by your apparell, motions, or too open ſtanding to give affright to the Fiſh, for when they are ſcared they flye from you, and you ſeeke ſociety in an empty houſe. Then muſt you labour in cleere, and untroubled waters, for when the Brooks are white, muddy, and thicke, eyther through inundations or other trouble, it is impoſſible to get any thing with the Angle: then to reſpect the temper of the weather, for extreame winde or extreame cold taketh from Fiſh all manner of appetite: ſo doth likewiſe too violent heat, or raine that is great, heauy, and beating, or any ſtormes, Snowes, Hayles, or bluſtrings, eſpecially, that which commeth from the Eaſt, which of all is the worſt: thoſe which blow from the South are beſt, and thoſe which come from the North or Weſt are indifferent: many other obſervations there are, but they ſhall follow in their due places.

Chap. 4.

Of the beſt, and worſt ſeaſons to Angle in, and their uſes.

BEfore I direct you in the beſt ſeaſons, and their contrary, for the generall Art of Angling, I thinke it not amiſe, a little by the way, to give you a glaunce or ſpeculation how to order your body, and Art at each ſeverall water: for the manner

of your ſtanding, and concealing of your ſelfe, is a materiall, and chiefe poynt in this art. Know then, that if you Angle in any Pond or ſtanding Water, you ſhall before you fall to your buſineſſe, with your Plumbe, ſound the water in divers places, and where you finde it deepeſt, blackeſt, and leaſt tranſparent, there you ſhall ſtand to Angle placing your ſelfe under the banke, and if it be poſſible, ſo as your ſhadow may be carried from the water: for you muſt at no time, if you can chuſe, let your ſhadow lie upon the water: and although in theſe deepe places your ſtanding open or cloſe, are eyther of them reckoned indifferently, becauſe the waters deepe is a ſufficient concealement, yet the cloſer you ſtand is accounted amongſt Anglers moſt handſome, and artificiall. But if you goe to Angle at the River, then the beſt place to caſt in your Line, is where it is deepeſt, and cleereſt, ſo as you may behold the Sand or Gravell at the bottome: and in theſe places you ſhall ſtrive to conceale your ſelfe as much as is poſſible, as ſtanding behind *Poplars*, *Oziers*, or other Trees, or under the covert of ſome Banke, or other ruins at the ſide of the River; alſo in covert places, where are many Weeds, roots of Trees, and other rubbiſh, is good Angling, but very troubleſome, for Fiſh lying their warme, and in ſafety, will have great reſort thereunto, and bite freely, ſo that the Angler muſt be carefull in the putting in of his hooke, and very deliberate in ſtriking, leaſt doing any thing raſhly, he breake his Line, and hooke, being never ſo little entangled. It is good alſo to Angle in Whirle-pooles, for they being like pits within the Rivers, are ſeldome unfurniſhed of the greateſt Fiſhes; alſo it is good to Angle at the fals of Water, as under Bridges, ſtanding behind the Iawmes, and Arches or at the flood-gates of Mills, being hid with the higher Timbers. And generally where you ſee the water is deepeſt, cleereſt, and calmeſt, being leaſt troubled with wind or weather, is the fitteſt place to Angle in. Other obſervations there

The Anglers manner of ſtanding.

are

are, but they will follow in more necessary places. The best seasons to Angle in.

To returne then to our first purpose. You shall know the best seasons to Angle in, is from Aprill till the end of October, speaking of the generall use of the pleasures; and the best houres also in generall account, are from foure in the morning till nine, and from three in the afternoone till after five in the evening, the wind blowing from South, West, or North, and the ayre temperate, inclined to warmnesse; but to speake of particular observations of seasons, know, that if the day be darke, close, and lowring, or have a gentle whistling wind playing upon the water, it is good to Angle in, and the fish will bite with pleasure: nay, if a fine mizling dew of rayne fall gently, without violence, they will bite then the faster; also, after flouds are gone away, and the rivers are come within their owne banks, their first cleerenesse recovered, and the water pure, then it is good to Angle. And generally for your Summer Angling chuse the coolest time of the day, for in the heat of the day, Fish betake themselues to their rest, and will neyther bite nor play. But for your Winter Angling, which is from October to Aprill, you shall not make any difference of time, if the weather be calme, for all houres of the Sunne are alike, only the noone-tide, or mid-day is most preferred, especially in Ponds, and standing waters, If the water where you Angle, ebbe or flow, the best time of Angling is held to be in the ebbe; yet in some places where the tyde is not great, there the floud is preferred. Lastly, whensoever you see the Trout play or leape above the water, and the Pyke shut in pursuit of other Fishes; it is then a very good time to Angle in, using such baits as are then meet for the moneth, and season, as shall be shewed hereafter.

Now for those seasons which are naught to Angle in, there is none worse then in the violent heate of the day, or when the Winds are lowdest, Rayne heaviest, Snow and Hayle extreamest: Thunder, and Lightning, are offensive Seasons ill to Angle in.

fenſive, or any ſharpe ayre which flyeth from the Eaſt: the places where men uſe to waſh Sheepe you ſhall forbeare, for the very ſmell of the wood will chaſe Fiſh from their haunts. Land-flouds are enemies to Anglers, ſo alſo at the fall of the Leafe is the ſhedding of leaves into the water, and many other ſuch like polutions, of which we will ſpeake ſomewhat more hereafter.

Of Fiſhes haunts,

Therefore, to conclude this Chapter, and to ſhew you as well how to find your Fiſh, as the art to take it being found, you ſhall know that the *Carpe*, *Ele*, and *Tench*, doe ever haunt muddy places: the firſt, which is the *Carpe*, lyeth ever in the depth, and bottome thereof: the *Tench*, among the weeds, and roots of Sedges, and the *Ele* under ſtones, blocks, or the roots of Trees.

The *Breame*, the *Cheavin*, and the *Pyke*, haunt ever in the cleare, and ſandy bottome, the *Pyke* where you ſee great ſtore of ſmall fry: the *Cheavin* where the ſtreame runneth ſwifteſt, and the ſhade is greateſt, and the *Breame* where the water is broadeſt, and the depth giveth greateſt liberty; and generally theſe three ſorts of Fiſh delight more in ſtanding waters then in running rivers, although the ancient Proverbe is,

Ancome Ele, and Witham Pyke.
In all England is none ſyke.

which are Rivers in *Lincoln*-ſhire. Now the *Salmon* hath his haunt in the ſwifteſt, and broadeſt Rivers, whoſe Channels fall downe into the Sea: the *Trout* loveth ſmaller brooks, whoſe current is ſwift, cleare, and gravelly, and ever hath his lodging in the deepeſt holes that are therein, and the *Pearch* haunteth rivers of the ſame nature, only he abideth moſt in the creeks, and hollownesſes, which are about the banke, and indeed theſe three Fiſhes generally *Salmon*, *Trout*, and *Pearch*, love cleare ſtreames, being greene with weeds, and the bottoms hard with gravell, and pibble.

The

The *Gudgen*, the *Loch*, and the *Bul-head*; haunt ever ſhalloweſt places, and where ſtreames are ſlow, yet tranſparent: The *Barbell*, *Roch*, *Dace*, and *Ruffe*, haunt the deepe ſhady places of thoſe brooks which are mixt with more ſand then gravell, or where the clay is firme, and not ſlimy; and delight ever to lie under the ſhadows of Trees, Brambles, or other things growing from the banke. The Luce or Lucerne, which indeed is but the over-growne *Pyke*, haunteth the broad, and large Meares, which are miles in compaſſe, being deepe, and ſtill, and ever lodgeth in the bottome thereof amongſt the roots, and tufts of *Sedges*, and *Bulruſhes*, being quiet, and leaſt troubled. The *Humber* haunts the clayie Rivers of hie Countries, where the ſoyle is rich, and full of *Marle*, or in Lakes, and Ponds of the ſame nature. The *Shad*, and *Tweat*, haunt thoſe waters which are brackiſh, deepe, and accuſtomed to ebbe, and flow, and where they haunt there commonly alſo is found both the *Mullet*, and the *Suant*, all which love to lodge cloſe, and flat at the bottome of the water, ſo it be more Ooze then gravell.

But here now me thinks I heare the curious reprehend me, ſaying, that if theſe rules ſhould be infallible, that then no River or Pond could contayne above three ſorts of fiſh only, when daily experience ſheweth us, that ſome Rivers have ten, ſome twenty, and ſome thirty, as *Trent*: for example, whoſe ancient name in the French is *Trianta*, in Latin *Triginta*, and in Engliſh thirty, derived from this ground, becauſe their ſtandeth upon her thirty Caſtles, thirty Market-townes, and are in her thirty ſeverall ſorts of fiſhes. *Obiection.*

To which I thus anſwere, that for as much as into moſt Rivers falleth many ſeverall waters, and many ſoyles, according to the nature of thoſe Countries, thorow which the Channels runne, that therefore every alteration of ſoyle may alter the breed of fry, and many ſeverall kinds may be in one Streame, ſo that *Anſwer.*

the Angler in the choyse of this pastime in such places, must eyther have a perfect knowledge how the soyles doe alter (which he may commonly know by the banks) or else rely upon his experience, which will be the best Tutor to direct him to the haunts of severall Fishes; but for Ponds or standing waters which are of one earth, there you shall finde the best prosper which are before rehearsed.

CHAP. 5.

Of Bayts in generall, and of every particular kind: their Seasons, Vse, and Preservasions.

SInce I have thus farre orderly passed over the outward, and instrumentall necessaries appertaining to this modest recreation, shewing the severall tooles, and implements which are to bee imployed therein, and have also shewed the inward, and mentall knowledge which should be harboured in his breast that will be an Angler: I will now proceed to speake of the Bayts, and inticements, which are the agents, and effecters of our desires in this pastime; without which all other imployments are vaine, and useless: for what doth it availe to have all other things in perfection, when this, which is the strength, and life of the rest, is eyther imperfect or defective? To speake then generally of Bayts, they are divided into three kinds, which are, *Live-bayts*, *Dead-bayts*, and *Bayts* living but in a appearance only. Your *Live-bayts* are *Wormes* of all kinds, especially the red *Worme*, the *Maggot*, the *Bobbe*, the *Dore*, browne *Flies*, *Frogs*, *Grashoppers*, *Hornets*, *Waspes*, *Bees*, *Snayles*, small *Roches*, *Bleakes*, *Gudgings*, or *Loches*. Your dead bayts are *Pasts* of all makings, young broods of *Waspes* dryed or undryed, the clotterd blood of *Sheepe*, *Cheese*,

Cheese, *Bramble-berries*, *Corne*, *Seeds*, *Cherries*, and such like. And your bayts which seeme to live, yet are dead, are *Flies* of all sorts, and shapes, made of silke, and feathers about your hookes, which will serve for every severall season through the yeere, and being by your Line moved upon the water, seeme to be live *Flies*, which the Fish with great greedinesse will catch up, and devoure.

Now for the seasons, in which these bayts are most profitable, you shall understand that the red *Worme* will serve for small Fish all the yeere long: the *Maggot* is good in July, the *Bobbe*, and *Dore* in May, the browne *Flies* in June, *Frogges* in March, *Grashoppers* in September, *Hornets* in July, *Waspes*, and *Bees* in July, *Snayles* in August. For the *Roch*, *Bleake*, or *Gudgin*, they serue the *Pyke* at any season: all *Pasts* are good in May, June, and July: dryed *Waspes* in May: *Sheepes-blood*, and *Cheese* in April: for *Bramble-buries*, *Corne*, and *Seeds*, they are good at the fall of the Leafe. Lastly, for your dead *Flies*, which are most proper for the *Trout*, or *Grayling*, you shall know that the dun *Fly* is good in March, being the lesser, but the greater dun *Fly* will serue the latter end of *February*: the stone *Fly* is good in Aprill, the red *Fly*, and the yellow *Fly* in May, the blacke *Fly*, the darke yellow *Fly*, and the morish *Fly* in June, the tawny *Fly* are in May, and part of June, the *Wasp-fly*, and the shell *Fly* in July, and the cloudy darke *Fly* in August.

Seasons.

Of *Flies*.

Now for the making of these Flies, the cloudy darke Fly is made of blacke Wooll, clipt from betweene a Sheepes eares, and whipt about with blacke Silke, his wings of the under mayle of the *Mallard*, and his head made blacke, and sutable, fixed upon a fine piece of Corke, and folded so cunningly about the hooke, that nothing may be perceived but the point, and beard only. The *Shell-fly* is made of fine greene floxe, and the wings of the wings of a *Pew-glead*: the *Wasp-fly*

The making of *Flies*.

is made of blacke Wooll, lapt about with yellow silke, and the wings of the downe of a *Buzzard*; the *Tawny-fly* is made of tawny Wooll, and the wings set one contrary to another, and made of the white downe of a *Widgen*: the *Morish-fly* is made of fine flocks, shorne from a freese-gray russet, and the wings of the blackest male of a *Drake*: the bright *Yellow-fly* is made of yellow Wooll, and his wings of a red *Cocks* yellow maine; the sad yellow *Fly*, is made of blacke Wooll, with a twisted yellow Silke, like a list, whipt downe on eyther side, and the wings of the wings of a *Buzzard*, set on with blacke thred: the blacke *Fly* is made of blacke Wooll, and lapt about with the heade of the *Peacocks*-tayle, his wings with the browne feathers of the *Mallard*, and some of his blew feathers on his head: the red *Fly* is made of red Wooll, lapt about with blacke Silke, and the wings of the male of a *Mallard*, with some of the red feathers of a *Capon*, the stone *Fly* is made of blacke Wooll, made yellow vnder the wings, and under the tayle with Silke, and the wings of *Drakes* downe: the greater dun *Fly* is made of blacke Wooll, and his wings of the dun feathers of a *Drakes*-tayle; the lesser dun *Fly* is made of dun Wooll, and his wings of the male of a *Partridge*.

Now for the shapes, and proportions of these *flies*, it is impossible to describe them without paynting, therefore you shall take of these severall *flies* alive, and laying them before you, try how neere your Art can come unto nature by an equall shape, and mixture of colours; and when you have made them, you may keep them in close boxes uncrushed, and they will serve you many yeeres.

Preservation of *Bayts*.

Now for the preservation, and keeping of your quicke *Bayts* (for longer then they are neate, and sweet they are not good:) you shall understand, that they must not be kept altogether, but every kind severall by it selfe, and nourished with such comforts as it delighteth in, when it is at liberty, or with such things as they breed in or upon

upon when they are first taken. And first for the red *Wormes*: when you take them, you shall put them into a bagge of red cloath, and chopping a handfull of *Fennell*, mixe it with halfe so much fresh mould, being blacke, and fertile, and they will both live, and scower therein: there be some Anglers which put wet Mosse, both under, and above them: others put *Parceley*, or sweet *Marjoram* unto them, but the former way is the best, so you observe every night to renew their earth, or once in two dayes to refresh them with a little new *Oxe* dung, and thus you may keepe them two moneths without imperfection: for the great white *Maggots*, you shall mixe with them *Sheepes-tallow*, or little bits of a beasts liver: the best way to scowre them, is to put them into a bagge of blanketting with *Sand*, and hang them where they may have the ayre of the fire, or other warmth, for the space of an houre or two. For *Frogges*, and *Grashoppers*, you shall keepe them in wet mosse, and long grasse, moystened every night with water, and when you Angle with them you shall cut off their legges by the knees, and the *Grashoppers* wings neere to the body: for other *Wormes*, as the *Bobbe*, *Cadis-worme*, *Canker*, and such like, you shall keepe them with the same things you finde them upon: and for all live *Flies* you shall use them as you take them, only the *Waspe*, the *Hornet*, and *Bumble Bee*, which is without sting, you shall first dry them a little in a warme Oven after the Bread is drawne, and then dip all their heads into *Sheepes* blood, and then dry them againe, and so keepe them in a close boxe, and they will continue two or three months in good perfection.

Now lastly, to speake of your made *Baits*, which are *Pasts*, the most of them will last the whole yeere, and as they be divers, so I will shew you how to compound every one of them in his true, and perfect nature. First, to make *Pasts*, that shall last the longest, you shall take *Beane-flower*, and those parts of the

Of making *Pasts*.

Conies-legge which is called the Almon of the Cony: or if it be of a fat young Whelp, or a Cat, it is as good: and to these put a like quantity of *Virgin-Wax*, and *Sheep-suet*, and then beat them together in a Morter, till they be made one body, then with a little clarified *Hony* temper it before the fire, and so make it up in round bals, and it will last all the yeere, and the use thereof is, when you Angle, to baite your hooke therewith, and not any Fish which swimmeth in fresh waters but will greedily bite thereat.

There is also another Paste which is of equall quality, and use with this, and will last as long, and that is to take the Kedney-tallow of a Sheepe, and as much young Cheese, and beat them in a Morter till they be one body, then adde to them as much *Wheat-flower* as will bring it to an exceeding stiffe paste, then knead it before the fire, and allay the stiffenesse with life *Hony*, and so make it up into Bals. The use of this Paste is like the former. Take the blood of a Sheepe, and of *Hony* like quantity, and beat them together with a lumpe of fresh *Cheese*, then with the fine grated crums of white bread, worke them into a stiffe palle, and so roule it up in Bals, and when you Angle doe not baite your hooke therewith, but now, and then cast little pellets thereof into the water, and it will entice the Fish to resort unto you, and to bite with great greedines. There be others which take Bread-crummes, and beat them in a Morter with ripe Cherries (the stones being taken out) till it come to a stiffe Paste, and then knead it up into Bals, and use it as you doe that which was last recited: it is most approved, and very excellent for all sorts of Fish in fresh waters.

Lastly, if you take Venis *Turpentine*, nine times washt and beaten, and mixt it with as much life *Hony*, and then dissolve them in the Oyle of *Polypody*, and so keepe it in a close glasse: then when you Angle, annoynt your baite but with this confection, and though the weather

be

be never so reasonable, or the Fish never so ill disposed to bite, yet be sure you shall not loose your labour; but take, when all men else faile of their purpose; for the secret hath beene rarely approved, and hitherto hath beene maintained with great secresie. And thus much for baites, and their uses.

CHAP. 6.

Of Angling for every severall kind of Fish, according to their natures.

NOw to shew you how you shall Angle most properly for every severall Fish, with true art, according to the nature of the Fish, I thinke it not amisse first to begin with the *Goodgin*, *Roch*, and *Dace*, which being Fishes of eager bit, most foolish, least afrightfull, and soonest deceiued, are the first fittest prayes for young Scholars, and such as are but learners in the *Art of Angling*, for the easinesse of their gayning will not only settle an unresolved mind, but give unto ignorance both comfort, and incouragement. If then you will Angle for any of these small Fishes in great streames, it shall be meet to take a Boate, and finding the places of their haunt, which is commonly in sandy cleare waters, and where they run swiftest, there Angle for them with your smallest hooks, well leaded, and smallest Lines, well Corkt. Your hooke would rather dragge then be an inch from the bottome, and your best baite is the *Red-worme*, *Cod-worme*, *Maggot*, clottered blood of Sheepe cut in little bits, or else the white *Spawne* or brood of *Waspes*: and ever assoone as you see the Corke stirre, suddenly strike, for they will lie nibbing at the bait, and finding the hooke, forsake it. If you Angle for them in small Brookes, you shall stand under Bridges,

Of the *Goodgin*, *Roch*, and *Dace*.

ges, at the falls of Mils, behind *Poplars*, or *Oziers*, or any where, where the ſtreame runneth deepe, and ſwift; and ever note, that when your bite failes, you remove your place, and ſeeke out a new ſtanding, and withall forget not, ever when you Angle for any of theſe Fiſh, to caſt in ſome of your Paſte before your hooke, for this will make your ſport much more abundant: and although the *Dace*, out of his owne nature, biteth high, and neere the top of the water, yet theſe bayts, and intiſmenents will make him ſtoope, and be taken eaſily.

Of the *carpe*. If you will Angle for the *Carpe*, you muſt have a ſtrong Rod, and a ſtrong Line, of at leaſt ſeven or nine hayres, and either mixt with a greene or watched ſilke: your worke muſt be large, long, and ſmooth; your Leads ſmooth, and cloſe, and fixt neere the hooke, and the hooke of almoſt a three-penny compaſſe. He is very dainty to bite but at ſome eſpecall houres, as very early in the morning, or very late at night, and therefore he muſt be very much entiſed with Paſte: his beſt bayts are the *Moſſe-worme*, the *Red-worme*, or the *Menow*, for he ſeldome refuſeth them. The *Cadis-worme* is good for him in June, and the *Magget*, *blask-worme*, or *Graſhopper* in July, Auguſt, and September. If you make him Paſte of ſoure *Ale*, whits of *Egges*, and *Bread*-crummes, it will very much intiſe him; alſo, I would ever wiſh you, before you fiſh for the *Carpe*, to caſt in a handfull of white Bread chippings into the Pond or River, for they will not only intiſe him to your bayt, but alſo give you notice if you be neere his haunt, for you ſhall preſently heare him ſmacke above the water, and then if you miſſe him, eyther your fortune or skill is not good.

Of the *chub*, *Chevin*, or *Trout*. If you will Angle for the *Chub*, *Chevin*, or *Trout*, all your Inſtruments muſt be ſtrong, and good: your Rod darke, and diſcoloured, your Line ſtrong, but ſmall, and ſhort, your hooke of a two-peny compaſſe, and if you Angle with a *Fly*, then, nor Lead, nor Corke, nor

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Quill, if otherwiſe, then all of a handſome, and ſutable proportion. The beſt ſtanding to take them is in cloſe, and concealed places, as behind Trees, Walls, or arches of Bridges: their haunts are in cleare waters which run upon Sand or Gravell, and they are in beſt ſeaſon from March till *Michaelmas*: if you Angle for them with dead *flies* without Lead or Corke, I have ſhewed you in the former Chapter, the ſeverall *flies* for each ſeverall moneth; but if you Angle for them with other *bayts*, then you muſt have both Corke, and leade, for he will bite neere the bottome, yet ſometimes you may Angle for him with a ſmall *Menow* hangd at your hooke by the neather parts without Corke, or Lead, and ſo draw the *bayt* upon the top of the water, and both with it, and with every *flie*, ſtrike rather before then after he biteth. If you angle for him at the ground in March, Aprill, May, and September, the *Menow* is a good *bayt*, ſo is the *Stone-fly*, *Cadis-worme*, *Bobbe*, red-*Worme*, ditch-*Canker*, young *Frogs*, the *worme* that breedeth on the *Ozier*-leafe, and the *Docke-canker* mixt together. In Iune *Crickets*, and *Dore-flies* are good: In Iuly the *Graſhopper* is good, ſo is the *bumble Bee*, dryed *Waſpes*, or dryed *Hornets*, or any of their young brood in the Combs. In Auguſt flying *Piſmires* are good, ſo is the *Colwort-worme*, or the *Maggot*, and in September eyther *Cherries*, *Mice*, before they have hayre, or the great *Sow-worme*.

I now will Angle for the *Ele*, the beſt place is at Weares, Mill-ponds, Bridges, hollow banckes, or any ſwift falling water: your Line ſtrong, and not above two elles in length, and very heavily plumbd, a good round hooke, but no Corke, becauſe you muſt not ſtrike till the *Ele* plucke: neyther muſt you by any meanes pull haſtily, but holding your Line ſtiffe, with labour, and patience tire him leaſt that tearing his chaps, you looſe him. The beſt *bayt* is the red-*Worme*, or little pieces of *Sheepes*-guts. Of the *Ele*.

Of the *Flounder*, & *Sewant*. The *Flounder*, and *Sewant* are greedy biters, yet very crafty: for they will nibble, and ſucke at a *bayt* a good while before they ſwallow it, and if they perceive the hooke, they will fly from it: therefore to make them more haſty of the *bayt*, you muſt ever be moving your line, and ſeldome let it lie ſtill. They lie muſt commonly in the deepeſt places of the River where the water is ſtilleſt, and runneth with leaſt force: alſo they lie neere unto the banke, and delight moſt in the ſtreame, which is brackiſh, and mixt with the ſalt water. Your Line muſt be ſtrong, and well plumbde neere to the hooke: and the beſt *bayt* is the red *Worme*, and the young brood of *Waſpes*.

Of the *Grayling* or *Barbell*. The *Barbell*, or *Grayling* which ſome call the *Umber*, are very ſubtill, and crafty Fiſhes: therefore you muſt be carefull that your *bayts* be ſweet, and new, and when you angle for them, doe in all things as you doe for the *Trout*, for they *bite* aloft in the Summer, and at the bottome in the Winter. Your lines muſt be extraordinarily ſtrong, and your hookes of a three-penny Compaſſe, for they are Fiſhes of waighty bodies, and when they are ſtrucke muſt have liberty to play, and tyer themſelves, or elſe they will indanger the breaking of your Rod, and therefore your Line muſt bee of the longeſt ſize.

Of the *Breame*. The beſt ſeaſons to angle for the *Breame*, is from the latter end of February till September, he is a luſty ſtrong Fiſh, and therefore your tooles muſt be good, the *bayts* in which he moſt delighteth is in *Wormes* of all ſorts, *Butterflies*, greene *Flies*, paſte of bread crummes, or the brood of *Waſpes*.

Of the *Tench*. The *Tench* is a *Fiſh* that ever loveth the bottome of Rivers, where the Ooſe or mudde is thickeſt: and is moſt fit to be angled for in the height of Summer, for at other ſeaſons he is not apt to bite, and at all times he is very dainty. The *baits* in which he delighteth moſt, is paſtes that are very ſweet, and the browner the bettet, eſpecially

ally if it be made with the blood of a Sheepe. At the great red-*Worme* alſo, he will bite, and ſo much the ſooner if you mixe them with this *Paſte*; the *Maggot*, and dryed *Waſpe* he will ſeldome refuſe, chiefly being dipt in *Hony*.

Of the *Bleake*, *Ruffe*, and *Pearch*.

The *Bleake*, *Ruffe*, and *Pearch* are Fiſhes which bite neyther hie nor low, but for the moſt part in the midſt of the water, therefore your Line muſt be very lightly plumbde, and farre from the hooke. The *bayts* which moſt intice them, beſides the red-*Worme* is the Houſe-*fly* in the Summer, and the fat of *Bacon* in the Winter: in Aprill they will bite well at the *Bob-worme* or *Maggot*, and in all other ſeaſons, they ſeldome refuſe any *Worme* or *Canker*. Your Line would be ſmall, and well armed from the hooke a handfull with ſmall Wyer, for the teeth of the *Pearch* will elſe gnaw it a ſunder.

Of the *Pyke*.

The *Pyke* is a fiſh of great ſtrength, and waight, in ſo much that you can hardly have a Line of Hayre to hold him, therefore your beſt Anglers uſe moſt commonly a chaulke Line, your Angle-rod alſo muſt have no ſmall top, but be all of one piece, and bigneſſe, and the Line made exceeding faſt for ſlipping; your hooke would be of the ſtrongeſt Wyer, white or yellow, and made double, the poynts turning two contrary waies, and then armed with ſtrong Wyer a foote at leaſt; his beſt *bayt* is a ſmall *Roch*, *Dace*, or *Menow*, the hooke being put in at the tayle, and comming forth under the gilles, and you muſt ſeldome or never let your *bayt* lie ſtill in the water, but draw it up, and downe, as though the Fiſh did move in water, and fled from the *Pyke*, for this will make him more eager, and haſty to bite; and having bit, you muſt be ſure to try him well before you take him up. The yellow live *Frogge* is alſo an excellent *bayt* for the *Pyke*, for you muſt underſtand, that they naturally delight not in any dead or unmoving food.

Of Snickling the *Pyke.*

There be ſome which take great delight to ſnickell or halter the *Pike*, which is good when *Pikes* are broke out of Ponds or Rivers, and come into little ſmall ditches or rundles, as is oft to be ſeene in low Countries. The way then to halter them is, firſt to finde the *Pike* where he lyeth (which in the heat of the day, you may eaſily doe) then take your Chaulke-line, and making a large running nooze thereof, put it gently into the water, about two foot before the noſe of the *Pyke*, then when you feele it touch the ground, cauſe one to goe behind the *Pyke*, and with a poale to ſtirre him, then as he ſhutteth, meete him with your nooze, and ſo with a ſodaine, and quicke Ierke throw him upon the land. In this ſport you muſt be very ready, nimble, and quicke ſighted, for if you give him the leaſt time, he will eſcape you.

Of the *Salmon.*

Now laſtly touching the angling for the *Salmon*, albe he is a *Fiſh* which in truth is unfit for your travell, both becauſe he is too huge, and cumberſome, as alſo in that he naturally delighteth to lie in the bottomes of great deepe Rivers, and as neere as may be in the middeſt of the channell, yet for as much as many men eſteeme that beſt which is got with moſt difficultie, you ſhall underſtand that the *bayts*, in which he moſt delighteth are thoſe which ſerve for the *Trout*, as paſte or *Flys* in the Summer, and red-*Wormes*, *Bob-Wormes*, or *Cankers* on the water-*docks* after *Michaelmas*. And thus much for the Art of Angling, and taking, of each ſeverall ſorts of *Fiſh* which live in the freſh or brackiſh waters.

CHAP. 7.

Chap. 7.

Of taking Fish without Angles, and first of laying hookes.

THe laying of hookes to take *Fish* in the night is most commonly used for the *Pike*, in great broad Meares or Waters, full of *Sedge Bulrushes*, and other weeds being very deepe, and muddy: Some doe use to lay them for the *Ele* also, but you shall understand, that if they lye for the *Pyke*, you must by no meanes let your hooke goe to the bottome, but with a sloate keepe it halfe a foote from the ground, but if you lay for *Eles*, then let your hooks be smaller, and sinke as low as they will.

Now for the manner of laying them, you shall bayt the hookes as you did when you Angled with *Menow*, *Roch*, *Dace*, *Gudgeu* or *Millers-thumbe*: and being made fast to strong pack-thred fasten also that pack-thred to a strong Cord, which Cord if it be three fadom in length, may hold sixteene or twenty hookes. Then fixing two strong stakes into the earth, fasten the two ends of the bigge Cord to the two stakes, and so let it lie from Sunne set till Sunne rise, and you shall never fayle, but some of your hookes will have taken, only observe if you lay for *Pyks*, to lay in the middest of the water neere the Sedge, and Weeds, but if you lay for *Eles*, lay neere the Banks, so there be no hollow or rotten Trees growing thereon.

Now if you would with these laid hooks take any other sorts of *Fish*, you shall lay such hooks as are fit for them: and before you depart away, cast into the water good store of Pellets of those pastes which are proper for the *Fishes* you would take: as the paste which is made of *Branne*, *Sheepes* bloud, *Garlicke*, and lees of Wine, will take all sorts of small *Fish*, that paste

which is made of *Sheepes Liver, Guts, Hogges-blood, Bread*-crums, and *Opoponax*, will bring *Pearch, Tench, Carpe*, or *Breame* to your hooks, and that *Paste* which is made of *Rue, Pine-Apple-kernels, Beane*-meale, and *Hony*, will bring the *Salmon*, the *Trout*, *Cheavin*, or *Barbell*, to your hooks at all times of the yeere.

To take Eles in Winter.

Make a long bottle of *Hay*, wrapt about *Willow*-boughs, having guts, or garbage in the middle which being soaked in the deepe by the side, two or three dayes the *Eles* will be in it which you may tread out.

To take a Pyke with sport.

Tie a hooke with a *Frogge* upon it with a string at the foot of a *Goose*, and put her into a Pond, where you shall see good tugging.

Chap. 8.

Of preserving fish from all sorts of devourers.

AMongst all the ravenous Creatures which destroy Fish, there is none more greedy then the *Otter*, whose only food being thereon, hourely lyeth in wait to consume them: therefore though some Fishermen use to take him with a wheele made with a double tunnell, and called by the name of the *Otter*-wheele, whose practise is so ordinary that every Fisherman knowes the use of the same, yet for a more ready, and easie way to destroy him, you shall as neere as you can finde out his haunt, and the holes that are in the banke, and under the roots of Trees where he lodgeth, and then take a great *Ele*, and slitting her backe above her navell, put in three or foure lumps of *Arsnicke*, and then stitch up the skin againe, and so lay the *Ele* from the navell downeward in

in the water, and from the navell upward out of the water: which when the *Otter* finds, it is his property to eate to the navell, and no farther, which if he doe it is the laſt he will eate.

Next to the *Otter*, the *Herne* is a great devourer of Fiſh, eſpecially the ſmall *Fry*, or that which lives in ſhallow places: therefore to deſtroy the *Herne*, you ſhall take a ſtrong *Barbell* hooke, and *bayt* it, eyther with a *Menow*, or a piece of *Dogs*-fleſh, colour your Line greene, and lay it in a ſhallow place made faſt to ſome ſtake, where the *Herne* may wade to the knee to take it; and aſſoone as he hath ſwallowed it, he ſhall no more goe from the place.

Now, for as much as this Fowle is a great deſtruction unto the young Spawne or Fry of Fiſh, it ſhall be good for the preſeruation thereof to ſtake downe into the bottomes of your Ponds good long Kids, or Faggots of *Bruſhwoods*, mixt with the boughs of greene *Willows*, or *Oziers*, in which the Fiſh caſting their ſpawne it will be a defence for them, till they be able to flie into better ſafety.

Next to the *Herne* the *Water-rat* is a great deſtroyer of young Fiſh, eſpecially *Trouts*, *Creviſſes*, or any that lie in holes in the bankes: the beſt way to deſtroy them is by hunting them with *Water-dogs*, which is a very good ſport, and I have ſeene twenty kild in an afternoone; but ſome doe uſe to take them with Hutches, or dead falls, ſet in their haunts, but the former way is the better.

Next them the *Sea-pie* is a great devourer of all ſorts of Fiſh, and there is no better way to take him then by ſetting Rods dreſt with Water-*Lime*, and ſet ſhoring be the edge of the water one croſſe over another, in ſuch places as the water is moſt ſhalloweſt, and upon ſome tufts of greene weeds lay a Fiſh for a *bayt* under the rods, at which he can no ſooner ſtrike but he is taken.

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Next theſe the Kings *fiſher* (which is a ſmall greene Bird) is a great deſtroyer of Fiſh, and the way to take him is to marke his haunt where he commonly ſitteth, which is ever in ſome buſh next the River: then ſet a little Cradle of lyme ſtraws about his ſeat, and they will quickly take him, for he ſeldome changeth, but ever ſitteth upon one bough.

Now to conclude, for the *Cormorant*, the *Morhen*, the *Bald-coot*, or the *Oſpray*, which devoure all kind of fiſh whatſoever, there is no way better to kill them then by watching their haunts, to ſhoot at them with a Fowling-piece, and in the breeding time of the yeere to deſtroy their neſts.

Chap. 9.

Of the ordring of Ponds, for the nouriſhment of Fiſh.

THere is nothing that killeth Fiſh or maketh them to proſper worſe then putrified, and ſtinking water: neyther is there any thing which corrupteth water ſooner then Weeds, Sedge, and ſuch filthineſſe being ſufferd to grow therein: therefore it ſhall be good once in three yeeres to cleanſe your Ponds of all manner of Weeds, and filth, which with a ſmall Boat, and a ſharpe hooke you may eaſily doe at the fall of the Leafe, for to cut them in the Spring doth increaſe them. Now if your Ponds be much ſubiect to mudde, as for the moſt part thoſe in clay Countries are, then it ſhall be good once in ſeven yeeres to drayne them, and lade them, and this would be done at the beginning of the Spring: and ſuch Fiſh as you meane to preſerue, you ſhall put into ſmaller pits or ſtewes, and the other diſpoſe at your pleaſure: then cauſing the mudde to be troden with mens feet as you tread Morter, you ſhall

ſhall ſee all the *Eles* riſe aloft, which when you have taken alſo, then with Shovels, and trough Spades caſt out all the mudde, and filth (which is a ſingular compaſſe for land) upon the banke: then ſodde the bottome of the Pond, and the ſides with greene ſods, and fixe them hard into the earth with ſmall ſtakes of *Sallow*, and theſe ſides will nouriſh the Fiſh exceedingly: this done, if your Pond have any freſh Spring in it, then you ſhall lade the water backe againe into it, and then drayning your ſtewes, take out your ſtore of Fiſh, and put them againe into your Pond, obſerving ever that there be two parts ſpawners, and but a third melters. Theſe pits, and ſmall ſtewes howſoever others write to the contrary, are better for feeding of Fiſh then breeding: therefore you ſhall ever keepe them with freſh water, and placing ſo one by another, that you may empty them at pleaſure, once in three moneths renew their banks, and bottomes with freſh ſoddes of the fruitfulleſt graſſe; alſo, you ſhall put into them good ſtore of ſmall Fry of *Roch*, *Dace*, *Menow*, *Loch*, and *Millers-thumbs*, for the bigger Fiſh will feed thereon: alſo the inward garbadge, and blood of *Sheepe*, *Calues*, *Hogges*, and ſuch like, which will fat Fiſh ſuddenly, for you muſt know that as the Fiſh in Rivers have, by vertue of the current, ever ſomething brought unto them to feed on, ſo the Fiſh which is impriſoned in Ponds, and wants that helpe, muſt eyther be relieved, or elſe periſh, and there is nothing better to feed them with then that before ſpoken, or elſe *Brewers-graynes*, *Chippings*, *Curds*, and any *Corne* whatſoever, throwne into the Ponds morning, and evening.

CHAP. 10.
Of the best Water-Lime.

THe best *Water-Lime* that can be made, and which will most surely hold within the water, is to take a pound of the strongest *Bird-lime*, and wash it in nine running waters, till there be no hardnesse in it; and then beat out the water cleane, and dry it: which done put it into an earthen pot, and adde thereto as much *Capons-grease* as will make it run, two spoonefull of strong *Vinegar*, a very little *Lamp-Oyle*, and *Venice-Turpentine*, and boyle them all gently together upon a soft fire, stirring it continually. Then take it from the fire, and let it coole, then at any time when you meane to use it, warme it, and then annoynt eyther your Rods, Bushes, Straws, or Lines, and no water will take away the strength.

FINIS.

Of the fighting-*Cocke*.

Chap. 1.

Of the Choyce, Ordring, Breeding, and Dyeting of the fighting-Cocke for Battell.

Since there is no pleasure more noble, delightsome, or voyd of couzonage, and deceipt then this pleasure of *Cocking* is: and since many of the best wisedomes of our Nation have beene pleased to participate with the delights therein, I thinke it not amisse, as well for the instruction of those which are unexperienced, as fortifying of them which have some knowledge therein, to declare in a few lines the election, breeding, and secrets of dyeting the fighting-*Cocke*, which having beene hitherto concealed, and unwritten of, is for our pleasure sake) as worthy a generall knowledge as any delight whatsoever.

To speake then first of the choyce of the fighting-*Cocke*; you shall understand that the best Carracters you can observe in him, is the shape, colour, courage, and sharpe heele: for his shape the middle, and indifferent

The choyce of the Cocke for Battell.

rent ſize is ever accounted beſt, becauſe they be ever moſt matchable, ſtrong, nimble, and ready for your pleaſure, whereas the huge *Cocke* (which we call the turne-Pocke) is ever hard to finde an equall, lubberly, and affording ſmall pleaſure in his battell; and ſo the exceeding little *Cocke* is as hard to match, and is commonly weake, and teadious in his manner of fighting. He would be of a proud, and upright ſhape, with a ſmall head, like unto a *Sparhawke*, a quicke large eye, and a ſtrong beake, crookt, and bigge at the ſetting on, and in colour ſutable to the plume of his Feathers, as blacke, yellow, or reddiſh. The beame of his legge would be very ſtrong, and according to his plume, blew, gray, or yellow: his ſpurres long, rough, and ſharpe, a little bending, and looking inward. For his colour, the gray pyle, the yellow pile, or the red with the blacke breſt, is eſteemed the beſt: the pyde is not good, and the white, and dun are the worſt. If he be red about the head, like Skarlet, it is a ſigne of luſt, ſtrength, and courage, but if he be pale it is a ſigne of ſickneſſe, and faintneſſe. For his courage, you ſhall obſerue it in his walke, by his treading, and the pride of his going, and in the pen, by his oft crowing. For the ſharpneſſe of his heele, or as *Cocke*-maſters call it, the narrow heele, it is only ſeene in his fighting, for that *Cocke* is ſayd to be ſharpe heeld, or narrow heeld, which every time he riſeth hitteth, and draweth blood of his adverſary, guilding (as they terme it) his ſpurres in blood, and threatning at every blow an end of the battell. And theſe *Cockes* are ſurely of great eſtimation, for the beſt *Cocke*-maſters are of opinion, that a ſharpe heeld *Cocke*, though he be a little falſe, is much better then the trueſt *Cocke* which hath a dull heele, and hitteth ſeldome, for though the one fight long, yet he ſeldome wounds, and the other though he will not endure the uttermoſt hewing, yet he makes a quicke diſpatch of

his

his buſineſſe, for every blow puts his adverſary in danger. But that *Cocke* which is both aſſuredly hard, and alſo very ſharpe heeld, he is to be eſteemed, and is of the moſt account above all other, and therefore in your generall election chuſe him which is of ſtrong ſhape, good colour, true valour, and of a moſt ſharpe, and ready heeſe.

The breeding of the battell *Cocke*.

Now for the breeding of theſe *Cockes* for the battell, it is much different from thoſe of the dunghill, for they are like Birds of pray, in which the female is ever to bee preferred, and eſteemed before the male, and ſo in the breed of theſe Birds you muſt be ſure that your *Henne* be right, that is to ſay, ſhe muſt be of a right plume, as gray, griſſell, ſpeckt, or yellowiſh, blacke or browne is not amiſſe: ſhe muſt be kindly to her young, of large body, well pockt behind for large Egges, and well tufted on the crowne, which ſhewes courage: if ſhee have weapons ſhe is better, but for her valour it muſt be excellent, for if their be any ſpot of cowardiſe in her, the *Chickens* can not be true. And it is a note amongſt the beſt breeders, that the perfect *Henne*, from a dunghill-*Cocke*, will bring a good *Chicken*, but the beſt *Cocke* from a dungill-*Henne* can never get a good Bird: and I have knowne in mine owne experience, that the two famouſeſt *Cockes* that ever fought in theſe daies, the one called *Noble*, the other *Griſſell*, begot on many ill *Hennes* very bad *Cockes*, but the famous *Henne*, *Iinkes* never brought forth ill Bird, how bad ſoever her *Cocke* were.

Having then unto perfect *Cockes* got perfect *Hennes* (for that is the beſt breeding) you ſhall know that the beſt ſeaſon of the yeere to breed in, is from the increaſe of the Moone in February, to the increaſe of the Moone in March, for one March Bird is ever better worth then three at any other ſeaſon. You ſhall place her *Penne* in which ſhe ſitteth, to ſtand warme, and to make

her bed of soft, and sweet straw, for they be much tenderer then the dunghils are, neyther shall you suffer any other Fowle to come in her view where she sits, for it will move her to displeasure and make her indanger her Egges. You shall observe in her sitting, whether she be busie to turne her Egges (which is a good signe in a *Henne*) and if she be slacke you shall helpe her at such times as she riseth from her nest, and ever be sure that when she commeth from her nest to have meat, and water ready for her, least being forced to seeke her food, she suffer her Egges to coole too much: also, you shall have Sand, Gravell, and fine sifted ashes in the roome where she sitteth, in which she may bath, and trimme her selfe, at her pleasure. After one and twenty daies is the time of there hatching, and if when they are new hatched, she doe neglect to cover, and keepe the first warme till the rest be disclosed, you shall observe her, and take those that are first opened, and lapping them warme in Wooll, lay them within the ayre of the fire till the rest be hatcht, and then put them all under her, and keeping both the *Henne*, and them exceeding warme, for they be so tender that the least cold will kill them, and suffer neither them nor the *Henne* to goe abroad into the ayre till they be a moneth old: and let them have store of food, as *Oat-meale, Cheese-parings, Chilver-wort*, and such like, and a large roome to walke in, the floare being boarded, for the earth-floare is too moyst, and the plaster-floare too cold. After they are a moneth old, you shall let them walke in some grasse court, where they may have store of *Wormes*, but by all meanes be sure that there be no stinking puddles of water in it, no sinckes, nor filthy Channels, for it is the greatest poyson that can be to Birds of this nature, and breedeth those diseases which are most mortall, therefore if every morning before they goe forth, you perfume them, and their roome with *Rosemary*, or *Peny-royall* burnt, it is a great preservation against all those infirmi-

firmities, or to chop *Leeke-blades* amongst their meat is good also. In this sort you shall nourish them till you may distinguish the *Cocke-chicken* from the *Henne*, and then seeing their Combs or Wattels but appeare, you shall cut them away, and seare them close, and so annoynt the sore with sweet *Butter* till it be whole. This will make them have fine, small, slender, and smooth heads, whereas to suffer the Combe to grow to his bignesse, and then cut it away, it will make him have a gouty thicke head, with great lumps: neyther is the fluxe of blood wholesome, for the least losse of blood in a feathered Fowle, is mortall, and dangerous. You shall suffer your *Cocke chickens* to goe together with there *Hennes* till they begin to fight, and pecke one at another, but then you shall separate them, and dispierce them into severall walkes: and that walke is the best for a fighting *Cocke* which is fartheſt from resort, as at Wind-mils, or Water-mils, Grange-houses, and such like, where he may live with his *Hennes* without the offence or company of other *Cocks*: Lodges in *Parks* are also good, and so are *Cony-warrens*, only they are a little too much haunted with vermine, and that is dangerous, let the feeding-place for your *Cocks* be upon soft dry ground, or upon boards, for to feed upon paved earth, or on Playster-floares will make their beakes weake, blunt, and not apt to hold fast. Any white *Corne* is good food for a *Cocke* in his walke, and so are tostes or crusts of bread steept in drinke, or mans urine, for it will scower, and coole them inwardly.

If your *Chickens* begin to crow (not being sixe months old) cleare, and lowd, or at unseasonable times, doe not esteeme them, for it is an apparant signe of cowardise, and falshood; for the true *Cocke* is very long before he get his voyce, and when he hath it, he observes his houres with the best judgment. Vnto your fighting-*Cocke* three *Hennes* are sufficient, five are with

with the moſt, for they are ſo hot of nature, and will tread ſo much, that they ſoone conſume their naturall ſtrength.

A *Cocke* would not be put to the battell before he be two yeeres old, at which time he is perfect, and compleate in every member, for to ſuffer him to fight when his ſpurres are but warts, you may well know his courage, but never his goodneſſe. You muſt alſo have an eſpeciall care to the Perch whereon your *Cocke* ſitteth when he rouſteth, for if it be too ſmall in the grype, or crooked, or ſo ill placed that he cannot ſit but he muſt ſtraddle with his legges, any of theſe faults will make him uneven heeld, and whatſoever he was naturally, yet by this accident, he will never be good ſtriker, for the making of the Pearch, eyther maketh or marreth the *Cocke*, therefore to prevent this fault, the beſt way is to have in your rouſt a row of little Perches, not above ſeven or eight inches in length and not a foot from the ground, ſo that your *Cocke* may with eaſe goe up to them, and being ſet, muſt of force have his legges ſtand neere together, for it is a rule that he which is a cloſe ſitter is ever a narrow ſtriker. Let the foot-ſtoole of the Perch be round, and ſmooth, and about the bigneſſe of a mans arme. Yet for your better knowledge, becauſe words cannot ſo well expreſſe theſe quantities, it ſhall not be amiſſe for you to goe to ſome famous *Cocke*-maſters houſe, and view the pierches which are within his feeding pennes, and according to thoſe proportions frame your owne, for the pearch is the making, and ſpoyling of any *Cocke* whatſoever. Againe, you muſt be carefull, that when your *Cocke* doth leape from his Perch, that the ground be ſoft whereon he lighteth, for if it be hard or rough, it will make your *Cocke* grow gouty, and put forth knots upon his feet.

The dyeting of *Cockes* for the battell.

Now laſtly, for the dyeting, and ordring of a *Cocke* for a battell, which is a ſecret, yet never divulged, but kept

kept close in the breasts of some few, and for as much as in it only consisteth all the ground, and substance of the pleasure, the best *Cocke* undieted, not being able to encounter with the worst *Cocke* that is dieted: you shall understand, that the time to take up your *Cockes* is at the latter end of August (for from that time till the latter end of May, *Cocking* is in request) and having viewed them well, and see that they are sound, hard feathered, and full summed, you shall put them into severall Pens, the models whereof you may behold in every *Cocke*-masters or Inne-keepers house, having a moving Pearch in it, to set at which corner of the Pen you please. Of taking up *Cockes*.

This Pen would be made of very close boards, well joyned together all but the fore front, which would be made open, like a grate, one Barre two inches distant from another, and before the grate two large Troughs of soft wood, one for his meat, the other for his water. The doore of the grate would be made to lift up, and downe, of such largenesse that you may with ease put your *Cocke*, in, and out, and daily cleanse the Pen to keepe it sweet, and wholsome. The Pen would be at least three foot in height, and two foot in square every way, and many of them may be joyned in one front, according to the bignesse of the roome, in which they are built: and also one above another, only with overshadowing boards so that one *Cocke* may not see another. Of the *Cocke* Pen.

When your *Cocke*, as aforesayd, is put up into his Pen, you shall for three or foure daies feed him only with old Maunchet, the crust pared away, and cut into little square bits, and you shall give him to the quantity of a good great handfull at a time, and you shall feed him three times in the day, that is to say, at Sunne rise, at high noone, and at Sunne set, You shall ever let him have before him the finest, coldest, and sweetest Spring-water that you can get. After he hath Of his dyet.

beene thus fed foure daies, and his Corne, Wormes, Gravell, and other course feeding scowred out of him, you shall then instead of feeding him in the morning, take him out of the Pen, and another *Cocke* also, and putting a payre of Hots upon each of their heeles, which Hots are soft bumbasted roules of Leather, covering their Spurs, so that they cannot hurt or bruise one another, and so setting them downe on the greene grasse, let them fight, and buffet one another a good space, as long as in their teaching they doe not wound or draw blood one upon another: and this is called the sparring of *Cockes*: it heateth, and chafeth their bodies, and it breaketh the fat, and glut which is within them, and maketh it apt to cleanse, and come away.

Of sparring of *Cockes*.

After your *Cockes* have sparred sufficiently, and that you see them pant, and grow weary, you shall take them up, and taking off their Hots, you must have deepe straw baskets made for the purpose, with sweet soft straw to the middle, and then putting in your *Cocke*, cover him with sweet straw up to the top, and then lay on the lidde close, and there let your *Cocke* stove, and sweat till the evening. But yet before you put him into the stove, you shall take *Butter*, *Rosemary*, finely chopt, and white *Sugar-candy*, all mixt together, and give him a lumpe thereof, as much as your thumbe, and then let him sweate, for the nature of this scowring is to bring away his grease, and to breed breath, and strength. You may in time of necessity for want of these straw baskets stow your *Cocke* in a *Cocke*-bagge, by laying straw both under, and above him, but it is not so good, because the ayre hath more power to passe therow it. After foure of the clocke in the evening, you may take your *Cocke* out of the stove, and licking his head, and eyes all over with your tongue, put him into his Penne, and then taking a good handfull of bread, small cut,

put

put it into his trough, and then pissing into the trough also give it him to eate, so as he may take his bread out of the warme urine, for this will make his scowring worke, and cleanse both his head, and body wonderfully.

Of the best Diet-bread.

Now you shall understand, that the bread which you shall give him at this time, and all other times during his dyeting shall not be Maunchet, but a speciall Bread made for the purpose in this manner; you shall take of *Wheat-meale* halfe a Pecke, and of fine *Oat-meale-flower* as much, and mixing them together knead them into a stiffe *Paste*, with *Ale*, the white of a dozen of *Egges*, and halfe a pound of *Butter*, and having wrought the *Dow* exceeding well, make it into broad thinne *Cakes*, and being three or foure dayes old, and the blisterings of the out-side cut away, cut it into little square bits, and give it the *Cocke*.

There be some that in this Bread will mixe *Licoras*, *Annis-seeds*, and other hot Spices, and will also in the *Cockes* water steepe slices of *Licoras*, but it is both unnaturall, and unwholesome, and maketh a *Cocke* so hot at the heart, that when he comes to the latter end of a battell he is suffocated, and overcome with his owne heate: therefore I advise all men of judgment to take that for the best dyet which is most naturall, and least contrary to the Fowles ordinary feeding.

But to returne to my former discourse, after you have fedde your *Cocke* thus for all night, you shall the next day let him rest, and only give him his ordinary feedings of Bread, and Water, then the next day (which is the second day after his sparring) you shall take him into a fayre even greene Close, and there setting him downe, having some dunghill-*Cocke* in your armes you shall shew it him, and so run from him, and entice him to follow you, and so chase up, and

downe halfe an houre at the leaſt, ſuffering him now, and then to have a ſtroke at the dunghill *Cocke*. And when you ſee that he is well heated, and panteth, you ſhall take him up, and beare him into your *Cocke*-houſe, and there firſt give him a ſcowring: take of *Butter*, which hath no *Salt*, halfe a pound, and beate it in a Morter with the leaves of *Hearbe* of *Grace*, *Iſop*, and *Roſemary*, till the Hearbs cannot be perceived, and that the *Butter* is brought to a greene *Salue*, and of this give the *Cocke* a roule or two, as bigge as your thumbe, and then ſtove him in the basket, as is before ſayd, till evening, and then feed as was formerly declared. The next day you ſhall let him reſt, and feed, and the next day after you ſhall ſparre him againe, and thus every other day for the firſt fortnight, you ſhall eyther ſparre or chaſe your *Cocke*, which are the moſt naturalleſt, and kindlieſt heates that you can giue him, and after every heate you ſhall give him a ſcowring: for this will breake, and cleanſe from him all greaſe, glut, and filthineſſe, which lying in his body, makes him purſſie, faint, and not able to ſtand out the latter end of a battell. Having fed your *Cocke* thus the firſt fortnight, the ſecond fortnight you ſhall alſo feed him in the ſame manner, and with the ſame food, but you ſhall not ſparre him, or give him heats above twice in a weeke at the moſt, in ſo much that thrice or foure times in the fortnight will be ſufficient, and each time you ſhall ſtove, and ſcoure him, according to the nature of his heats, that is to ſay, if you heat him much you ſhall ſtove him long, and give him of your ſcowring the greater quantity: if you find that he is in good breath, and needeth but fleight heats, then you ſhall ſtove him the leſſe while, and give him the leſſe of the ſcowring. Now to the third fortnight, which maketh up the ſixe weekes compleate, (being a time ſufficient to prepare a *Cocke* for his battell) you ſhall feed him as aforeſayd, but you ſhall not ſparre him at all, for feare of making his head tender or ſore, neyther give him any violent exer-

The beſt ſcowring.

exercise, but only twice or thrice in the fortnight, moderately, let him runne, and chase up, and downe, to maintayne his winde, and now, and then cuffe a *Cocke*, which you shall hold to him in your hands, which done, you shall give him his scouring well rould in the powder of *Sugar-Candy*, white or browne, but browne is the better, for the *Cocke* then being come to perfect breath, and having no filth in his body for the scowring to worke on, it will worke upon the vitall parts, and make the *Cocke* sicke, which the *Sugar-Candy* will prevent, and strengthen nature against the medicine. After the end of sixe weekes feeding, finding your *Cocke* in lust, and breath, you may fight him at your pleasure, observing that hee have at least three dayes rest before he fight, and well emptied of his meate before you bring him into the Pit.

Now when you bring him into the Pit to fight, you must have an especiall care to the matching of him, for in that art consisteth the greatest glory of the *Cocke*-master, for what availeth it to feed never so well, if in the matching you give that advantage which overthroweth all your former labour? Therefore in your matching there is two things to be considered: that is, the length of *Cockes*, and the strength of *Cockes*: for if your adversary-*Cocke* be too long, yours shall hardly catch his head, and then he can neyther endanger eye nor life: and if he be the stronger, he will over-beare your *Cocke*, and not suffer him to rise, and strike with any advantage: therefore for the knowledge of these two rules, though experience be the best Tutor, yet the first which is length you shall judge by your eye, when you gripe the *Cocke* about the waste, and make him shut out his legges, in which posture you shall see the utmost of his height, and so compare them in your judgment. Now for his strength, which is knowne by the thicknesse of his body, for that *Cocke* is ever held

The matching of *Cockes*.

the ſtrongeſt which is largeſt in the garth, you ſhall know it by the meaſure of your hands, gryping the *Cocke* about from the points of your great fingers, to the joynts of your thumbs, and eyther of theſe advantages by no meanes give to your adverſary, but if you doubt loſſe in the one, yet be ſure to gaine in the other: for the weake long *Cocke* will riſe at more eaſe, and the ſhort ſtrong *Cocke* will give the ſurer blow, ſo that becauſe all *Cockes* are not caſt in a mould, there may be a reconciliation of the advantages, yet by all meanes give as little as you can.

Of preparing *Cockes* to the fight.

When your *Cocke* is equally matcht, you ſhall thus prepare him to the fight, firſt with a payre of fine *Cocke* ſheares you ſhall cut all his Maine off, cloſe to his necke, even from his head to the ſetting on of his ſhoulders, then you ſhall clip off all the feathers from his tayle cloſe to his rumpe: where, the more skarlet that you ſee his rumpe, in the better eſtate of body the *Cocke* is. Then you ſhall take his wings, and ſpreading them forth by the length of the firſt feather of his wing, clippe the reſt ſlopewiſe with ſharpe points, that in his riſing he may therewith indanger the eyes of his adverſary: then with a ſharp knife you ſhall ſcrape ſmooth, and ſharpen his beake, then ſhall you ſmooth, and ſharpen his Spurres.

The ordring of *Cockes* after the Battell, and the curing them.

Laſtly, you ſhall ſee that there be no feathers about the crowne of the head for his foe to take hold on, and then with your ſpittle moyſting his head all over, turne him into the Pit to prove his fortune: when the battell is ended the firſt thing you doe, you ſhall ſearch his wounds, and as many as you can finde you ſhall with your mouth ſucke the bloud out of them, then waſh them with warme urine, to keepe them from ranckeling, and give him a roule or two of your beſt ſcouring, and ſo ſtove him up as hot as you can, both with ſtraw, and blanketting in a cloſe Basket for all that night, then in the morning take him forth, and if his head be much

ſweld,

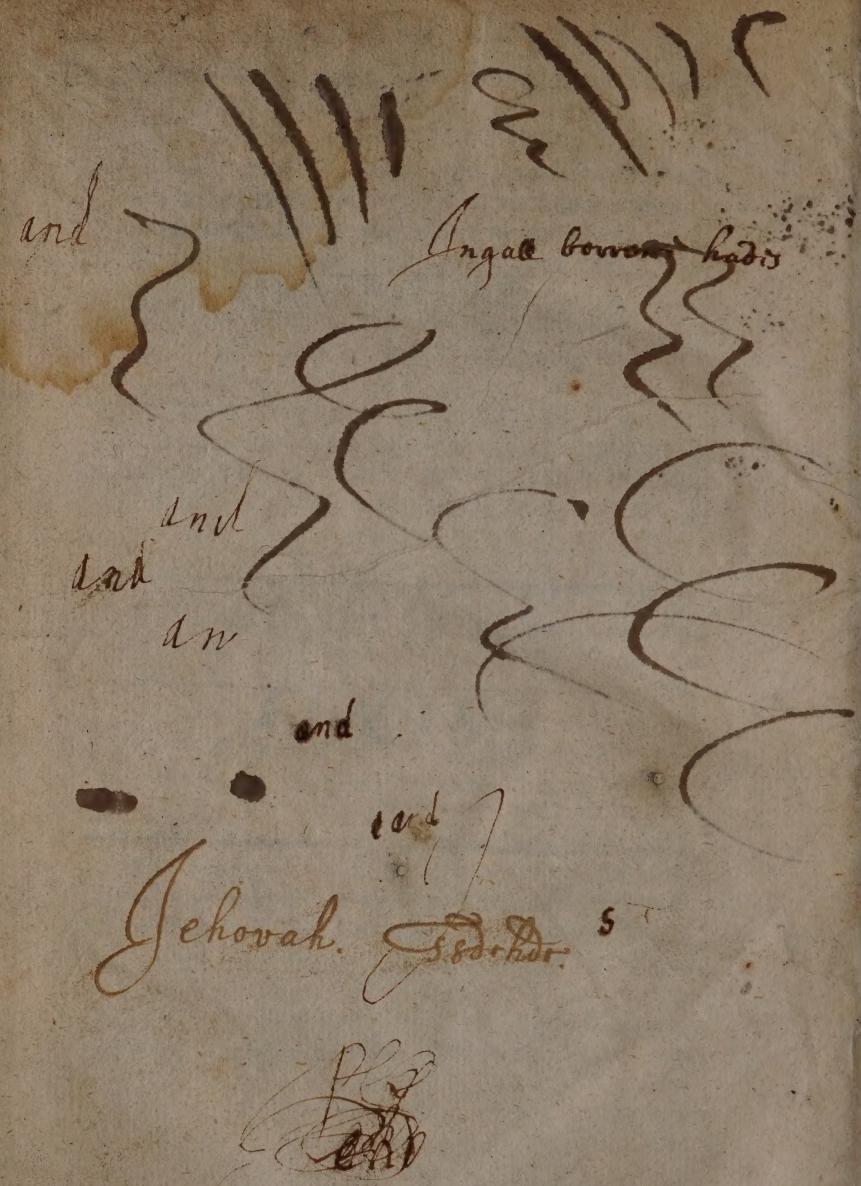
ſweld, you ſhall ſucke his wounds againe, and bath them with warme urine, then having in a fine bagge the pouder of the Hearbe *Robert*, well dryed, and finely ſeyrſt, pounce all the ſore places therewith, and then give the *Cocke* a handefull of Bread to eate out of warme urine, and ſo put him into the ſtove againe, and by no meanes let him feele the ayre till all the ſwelling be gone, but twice a day ſucke his wounds, dreſſe him, and feede him, as is aforeſaid. But if hee have received any hurt, or blemiſh in his eye, then you ſhall take a leafe or two of right ground *Ivy*, not that which runneth along the ground, and is of the ignorant ſo called, but that which growes in little tufts in the bottome of Hedges, and is a little round rough leafe, and having chewde it well in your mouth, and ſuckt out the juyce, ſpit it into the eye of the *Cocke*, and it will not only cure it of any wound, or blow in the eye, where the ſight is not pierced, but alſo defend it from the breeding of *fylmes*, *hawes*, *warts*, or ſuch other infirmities, which quite deſtroy the ſight: obſerving that you doe not ceaſe to dreſſe the eye therewith ſo long as you ſhall perceive any blemiſh therein.

Now if your *Cocke* have in his fight veyned himſelfe, eyther by narrow ſtriking, or other croſſe blow, you ſhall finde out the wound: and preſently binde thereunto the fine ſoft downe of a *Hare*, and it will both ſtaunch it, and cure it. For any other caſuall infirmity or ſickeneſſe which ſhall happen unto *Cockes*, looke in a little Booke called *Cheape, and good*, and you ſhall finde them ſet downe at large, only I will give you this one ſmall remembrance, that after you have put forth your wounded *Cockes* to their walkes, and come to viſit them a moneth or two after: if you finde about their heads any ſwelled bunches, hard, and blackiſh at one end, you ſhall know that

that in such bunches are unsound chores: therefore presently with your Knife you shall open the same, and crush out the chores with your thumbs, then with your mouth sucke out all the corruption, and then fill the holes full of fresh *Butter*, and it will cure them.

And thus much for the nature of the *Cocke*, and how to keepe him for his best use in the pleasure of Princes.

FINIS.



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